
SPECIFICATIONS

BID SET

**DCSD PLUMBING IMPROVEMENTS PROJECT
WYANDOT ELEMENTARY SCHOOL
5620 DUBLINSHIRE DR, DUBLIN, OH 43017**

AEC PROJECT NO. 25-002-007

April 2, 2026



PREPARED BY:



ADVANCED ENGINEERING CONSULTANTS LLC

1405 DUBLIN ROAD, COLUMBUS, OH 43215

(614) 486-4778 | AECMEP.COM

NOTICE TO BIDDERS

Sealed bids will be received by the Board of Education of the Dublin City School District for the Wyandot Elementary School Plumbing Improvements.

The bids will be received at:

6371A Shier Rings Road
Dublin, Ohio, 43016
Attention: Jeff Stark, Chief Operating Officer

until 2:00 p.m. local time on April 23, 2026, and will be opened and publicly read and recorded immediately thereafter.

The contract documents, including the notice to bidders, may be obtained at:

<https://www.dublinschools.net/departments/operations/bids-and-rfps>

Instructions to Bidders

PROJECT:

Dublin City School District, Wyandot Elementary School Plumbing Improvements

THE OWNER:

Board of Education of the Dublin City School District
6371A Shier Rings Road
Dublin, Ohio, 43016

THE ARCHITECT:

Advanced Engineering Consultants
1405 Dublin Road
Columbus, Ohio 43215

INQUIRIES REGARDING BIDDING DOCUMENTS:

Inquiries regarding the Bidding Documents, including requests for clarifications or interpretations, request for information, or proposal of substitutions shall be submitted by e-mail to the Architect to the attention of Gavin Lim at:

gavin.lim@aecmep.com

The subject line of the e-mail should clearly reference the Project as named above.

ESTIMATE:

The estimated Cost of the Work for the Project is as follows:

\$103,452

PRE-BID MEETING:

There will be Pre-Bid Meetings for all Bidders as follows:

Date/Time: April 9, 2026, at 4:00 p.m.

Location: Wyandot Elementary School
5620 Dublinshire Drive
Dublin, Ohio 43017

BID OPENING:

In addition to attending the public bid opening, Bidders may observe the public Bid opening live at the following link:

<https://www.youtube.com/@DublinCitySchoolsOH/streams>

ARTICLE 1. DEFINITIONS

1.1 Bidding Documents include the Bidding Requirements and the Contract Documents plus any other item designated as a Bidding Document. The Bidding Requirements consist of the Notice to Bidders, Instructions to Bidders, the Bid Form, Bid Guaranty, bond (as required under Section 4.2.1), and other sample bidding and contract forms. The Contract Documents, which are inclusive of the Bidding Requirements, are enumerated and defined in the Agreement between the Owner and Contractor. Definitions set forth in the Agreement between Owner and Contractor or in other Contract Documents are applicable to the Bidding Documents.

1.2 Addendum or Addenda are written or graphic instruments issued by the Architect prior to the opening of Bids which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

1.3 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

1.4 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

1.5 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted on the Bid Form in accordance with the Bidding Documents.

1.6 A Bidder is a person or entity who submits a Bid.

1.7 The Bid Form is the form furnished in the Bidding Documents that is to be completed, signed, and submitted containing the Bidder's Bid.

1.8 Bid Guaranty means a bond or other instrument of security authorized by Ohio Revised Code Section 153.54 submitted with the Bid in accordance with Section 4.2 to provide assurance that the Bidder will execute the Agreement.

1.9 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

ARTICLE 2. BIDDER'S REPRESENTATIONS

2.1 The Bidder by making a Bid represents that:

2.1.1 The Bidder has read and understands the Bidding Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

2.1.2 The Bid is made in compliance with the Bidding Documents.

2.1.3 The Bidder has visited the site and surrounding area, become familiar with the conditions under which the Work is to be performed (including but not limited to the condition, layout and nature of the site and surrounding area; the availability and cost of labor; the availability and cost of materials, supplies and equipment; the costs of temporary utilities required in the Bid; the cost of any required permit or license; the usual weather conditions of the Project location; conditions bearing upon transportation, disposal, handling and storage of equipment, materials and waste; and subsurface and concealed physical conditions and related information provided in the Bidding Documents) and has correlated the Bidder's personal observations with the requirements of Bidding Documents.

2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

2.2 By submitting its Bid, the Bidder understands and agrees that the Contract Sum, based on its Bid and as amended by Change Orders, shall cover all amounts due from the Owner resulting from interference, disruption, hindrance or delay caused by or between Separate Contractors or their agents and employees.

2.3 The Bidder agrees that the Bidder will make no request for additional compensation or mitigation of Liquidated Damages for any such interference, disruption, hindrance or delay, and will accept as full satisfaction an extension of the Contract Time which may be provided by the Owner in accordance with the Bidding Documents.

ARTICLE 3. BIDDING DOCUMENTS

3.1 COPIES

3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Notice to Bidders in the number and for the dollar amount, if any, stated therein.

3.1.2 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

3.2.2 Bidders requiring clarification or interpretation of the Bidding Documents shall submit a written request for information to the Architect at least seven (7) days prior to the date for receipt of Bids. By submitting its Bid, each Bidder represents and agrees, based upon its careful and diligent review of the Bidding Documents, that it is not aware of any conflicts, inconsistencies, errors or omissions in the Bidding Documents for which it has not timely notified the Architect. Bidders who fail to timely provide notification and to request clarification will be expected to overcome such conditions without additional compensation.

3.2.3 Interpretations, corrections and changes of the Bidding Documents if determined by the Architect to be warranted will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

3.2.4 In interpreting the Bidding Documents, words describing materials that have a well-known technical or trade meaning, unless otherwise defined in the Bidding Documents, shall be construed in accordance with the well-known meaning recognized by the trade.

3.2.5 When the Bidding Documents refer to a period of time by a number of days, it excludes the first day and includes the last day of the period. If the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted, and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday. The term "day" as used in the Instructions to Bidders shall mean a calendar day unless otherwise noted.

3.2.6 Bidder is required to comply with all requirements of the Bidding Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder that might indicate a contrary intention.

3.3 SUBSTITUTIONS

3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been submitted to the Architect at least seven (7) days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted, the reason for the requested substitution, a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, drawings, performance and test data, any other information necessary for an evaluation, and a certification from the Bidder that the proposed item is equal in quality and all aspects of performance and appearance, to the item specified. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of Separate Contractors that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Approvals made in any other manner will not be binding, and Bidders shall not rely upon them. The Architect's decision will be final.

3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

3.4 ADDENDA

3.4.1 Addenda will be transmitted by e-mail or facsimile, posted to the Owner's website set forth in the Notice to Bidders, posted to an FTP site, or otherwise furnished to each firm's contact person of record. It is essential that Bidders provide full and accurate contact information to the Owner, including e-mail addresses.

3.4.2 All Bidders will be presumed to have actual knowledge of all Addenda distributed in the manner set forth in Section 3.4.1, and Bidders shall not avail themselves of incomplete knowledge and/or lack of familiarity of the Bidding Documents and any Addenda thereto resulting from the Bidder's failure to provide accurate contact information to the Owner, a Bidder's failure to check the Owner's website, or a Bidder's failure to otherwise ascertain delivery of an Addendum

3.4.3 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.5 If an Addendum is issued within 72 hours prior to the published time for the opening of Bids (excluding Saturdays, Sundays, and legal holidays), then the time for opening of Bids shall be extended one week with no further advertising of Bids required.

3.5.1 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid Form. If the Bidder fails to acknowledge receipt of each Addendum, the Bid may be deemed non-responsive, unless the Bid amount clearly and unambiguously reflects receipt of the Addendum, or the Addendum involves only a matter of form and does not affect the price, quantity or quality of the Work to be performed in any material manner.

3.6 BASIS OF DESIGN AND ACCEPTABLE COMPONENTS

3.6.1 The Bidding Documents may list components produced by specific manufacturers to denote kind, quality, or performance requirements. The component listed first is the basis of design component, and other listed components are acceptable components. If the Bidder includes an acceptable component in its Bid, the Bidder is responsible for the costs of coordination and modification required.

ARTICLE 4. BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

4.1.1 The Bidder is strongly encouraged to attend any pre-bid meetings where questions will be received regarding the Bidding Documents. Each Bidder will be determined to have actual knowledge of all information provided or discussed at the pre-bid meeting, and additional compensation shall not be based upon the Bidder's failure to attend the pre-bid meeting which results in the Bidder's incomplete knowledge and familiarity of the Project requirements.

4.1.2 Bids shall be submitted on the forms included with the Bidding Documents.

4.1.3 The Owner may solicit Bids which combine two or more bid packages. The individual Base Bid amounts of each separate bid package need not total the combination Base Bid amount. The Owner reserves the right to accept or reject any or all separate Bids or combination Bids, in whole or in part, and in any order.

4.1.4 All blanks on the Bid Form shall be legibly filled in using a non-erasable medium, and interlineations, alterations and erasures must be initialed in ink by the signer of the Bid.

4.1.5 Sums shall be expressed in both words and figures. In case of discrepancy between the amount in words versus the amounts in figures, the lowest amount shall control, whether expressed in numbers or words.

4.1.6 The wording on the Bid Form shall be used without change, alteration or addition. Any change in the wording or omission of specifying accompanying documents may cause the Bid to be rejected.

4.1.7 When an Alternate is listed on the Bid Form, the Bidder shall fill in the blank with an amount to add to or deduct from the Base Bid. Voluntary Alternates are prohibited from becoming the basis of the Contract award.

4.1.7.1 If no change in the Bid amount is required, indicate "No Change" or "\$0 dollars."

4.1.7.2 When the Bid Form provides for quoting either an addition or deduction for an Alternate, indicate whether the amount is an addition or deduction. If it is not indicated, it will be conclusively presumed that the amount is a deduction. Methods for indicating a negative number may include preceding the number by a minus sign, enclosing the number in parenthesis, or, when provided on the Bid Form, by circling "DEDUCT" or similar words.

4.1.7.3 Failure to make an entry, or an entry of "No Bid," "N/A," or similar entry for any Alternate shall cause the Bid to be nonresponsive if that Alternate is selected. If the Alternate is not selected, such an entry on that Alternate will not itself render a Bidder nonresponsive.

4.1.8 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation. For a Bid submitted by an agent, the Owner may require submission of a current power of attorney certifying the agent's authority to bind the Bidder. The Bidder may be required to provide evidence of legal authority to perform within the jurisdiction of the Work.

4.1.9 In determining which Bid is the lowest, the Owner shall consider the Base Bid and any Alternate or Alternates which the Owner decides to accept in the Owner's sole and absolute discretion. The Owner shall have the right to accept Alternates in any order or combination as desired by the Owner and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted. The Bidder further understands and acknowledges that use of Alternates is a long held customary practice in the construction industry in the State of Ohio. The Bidder understands that based on Alternates selected by the Owner, the Contract award to the lowest responsible Bidder may result in an award to a Bidder other than the Bidder that submitted the lowest Base Bid.

4.1.10 When two or more Bids are equal, in the whole, or in any part thereof, and are lower than any others, and the Owner has determined the Bidders to be responsive and responsible, the Owner may do either of the following in the Owner's sole discretion: (1) accept either of such equal bids, but in no case shall the Work be divided between such Bidders, or (2) select one Bidder by lot in the presence of all Bidders in such manner as the Owner shall determine and such selection shall be final, and if one of the Bidders refuses to participate in or fails to be present, the selection shall be made among the participating Bidders.

4.1.11 UNIT PRICES.

4.1.11.1 If Unit Prices are requested on the Bid Form, the amount of the scheduled quantities shall be included in the Base Bid amount. Unit prices shall be used solely for the purpose of determining the adjustment to the Contract Sum for the difference between the estimated quantities on the Bid Form and the actual quantities provided. If Unit Prices are stated to be sought only for informational purposes, they shall not be included in the Bid amount.

4.1.11.2 Unit Prices shall include all materials, equipment, labor, delivery, installation, and any other cost or expense, in connection with, or incidental to, the performance of that portion of the Work. Unit Prices shall not include the Contractor's fee on account of the associated Unit Price Work. The Bidder shall submit Unit Prices for all items listed.

4.1.11.3 Where there is a conflict between a Unit Price and the extension thereof made by the Bidder, the Unit Price shall govern, and a corrected extension of such Unit Price shall be made.

4.1.11.4 The Bidder agrees that the Owner may increase, decrease or delete entirely the scheduled quantities of Work to be done and materials to be furnished after execution of the Contract.

4.1.12 ALLOWANCES

4.1.12.1 If allowances are provided in the Bidding Documents, including the Bid Form, the amount of each applicable allowance shall be included in the Base Bid amount. Allowances shall be used solely for the purpose of determining the adjustment to the Contract Sum for the difference between the amount of the allowance and the actual cost of the related Work provided.

4.2 BID GUARANTY/BOND

4.2.1 A Bid Guaranty payable to the Owner and meeting the requirements of Ohio Revised Code Section 153.54 shall be submitted with the Bidders Bid in the form of either (i) a bid guaranty and contract bond meeting the requirements of Ohio Revised Code Sections 153.54(A)(1), 153.54(B) and 153.571 or (ii) a certified check, cashier's check or letter of credit meeting the requirements of Ohio Revised Code Sections 153.54(A)(2) and 153.54(C). The Bid Guaranty shall serve as an assurance that the Bidder will, upon acceptance of the Bid by the Owner, comply with all conditions for the execution of the Contract within the time specified.

4.2.1.1 The amount of the bid guaranty and contract bond under Section 4.2.1(i) herein should be the full amount of the Bidder's Base Bid plus all add Alternates with no deduction for any deduct Alternates; a percentage is not acceptable. If the blank line on the bid guaranty and contract bond is not filled in, the penal sum will automatically be the full amount of the Base Bid plus all accepted Alternates. If an amount is inserted, then the failure to state an amount equal to or greater than the total of the Base Bid plus all add Alternates that are accepted shall make the Bid non-responsive. If the successful Bidder provided a bid guaranty and contract bond as its Bid Guaranty under Section 4.2.1(i) and this Subsection 4.2.1.1, then the bid guaranty and contract bond shall become the performance and payment bond.

4.2.1.2 A certified check, cashier's check or letter of credit under Section 4.2.1(ii) herein should be equal to ten (10) percent of the Base Bid plus all add Alternates, and a failure to provide an amount equal to or greater than ten (10) percent of the total of the Base Bid plus all add Alternates that are accepted shall make the Bid non-responsive. Any letter of credit shall be revocable only by the Owner. Successful Bidders that provide a Bid Guaranty in the form of a certified check, cashier's check or letter of credit under Section 4.2.1(ii) and this subsection 4.2.1.2 shall, at the time of signing the Contract, provide a performance and payment bond meeting the requirements of Ohio Revised Code Sections 153.54(C) and 153.57.

4.2.1.3 A bond must be issued by a surety capable of demonstrating a record of competent underwriting, efficient management, adequate reserves, and sound investments. A bond must be signed by an authorized agent of an acceptable surety bonding company and by the Bidder. The bond must be issued by a surety company authorized by the Ohio Department of Insurance to transact business in the State of Ohio and a copy of that insurance company's certificate of compliance should be attached to the bond. Each bond shall also be supported by a power of attorney for the agent signing for the surety.

4.2.2 FORFEITURE

4.2.2.1 If for any reason, other than as authorized by Sections 4.4 and 4.5 herein, the Bidder fails to execute the Contract, and the Owner awards the Contract to another subsequent Bidder which the Owner determines is the lowest responsive and responsible Bidder, the Bidder who failed to enter into a Contract shall be liable to the Owner for the difference between such Bidder's Bid amount and the Bid amount of the subsequent Bidder awarded the Contract, but not to exceed ten (10) percent of the Bid amount of the Bidder who failed to enter into a Contract. For purposes of this Section 4.2.2, the Bid amount shall mean the Base Bid and Alternates selected by the Owner.

4.2.2.2 If the subsequent Bidder also fails or refuses to execute the Contract, the liability of such subsequent Bidder shall be the amount of the difference between the Bid amount of such subsequent Bidder and the Bid amount of another subsequent Bidder which the Owner determines is the lowest responsive and responsible Bidder, but not in excess of ten (10) percent of the Bid amount of the subsequent Bidder who failed to enter into a Contract. Liability on account of an award to each succeeding lowest responsible Bidder shall be determined in like manner.

4.2.2.3 If the Owner does not award the Contract to another Bidder which the Owner determines is the next lowest responsible Bidder, but resubmits the Project for bidding, the Bidder failing to execute the Contract shall be liable to the Owner for the costs in connection with the resubmission, of printing new Bidding Documents, required advertising and printing and mailing notices to prospective Bidders, but not to exceed ten percent (10%) of such Bidder's Bid amount.

4.3 SUBMISSION OF BIDS

4.3.1 The Bid, the Bid Guaranty and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bid and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the sealed Bid envelope is enclosed in another envelope for purpose of delivery, the exterior envelope shall also be addressed to the party receiving the Bid and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted.

4.3.2 Bids shall be delivered to the designated location not later than the time and date for receipt of Bids. The cancellation or delay of the normal business activities of the Owner shall not be construed as an extension of the time and date for the receipt and opening of Bids. Bids received after the time and date for receipt of Bids will be returned unopened regardless of the reason for the delay.

4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids, regardless of the method of delivery. Ample time should be allowed for transmittal of Bids. Bidders should secure correct information relative to the probable time of arrival at the place where Bids are to be opened.

4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted Bids will not be considered.

4.3.5 Form of Bid

4.3.5.1 Bids shall not contain a recapitulation of the Work to be done.

4.3.5.2 Before submitting a Bid, Bidders should carefully examine all of the Bidding Documents, visit the site and fully inform themselves as to all existing conditions and limitations that may affect the Work, including prevailing climate conditions and when the Work will be performed. Each Contractor shall be responsible for its portion of the Work regardless of what Drawing it may appear on or Specification division it is described in.

4.4 MODIFICATION OR WITHDRAWAL OF BID PRIOR TO BID OPENING

4.4.1 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A modification to the Bid amount shall be worded as not to reveal the amount of the original Bid, and changes shall provide an amount to be added to or subtracted from the Bid amount so that the final Bid amount can be determined only after the sealed envelope is opened.

Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders. The Bid Guaranty shall be in an amount sufficient for the Bid as resubmitted.

4.5 WITHDRAWAL OF BID AFTER BID OPENING

4.5.1 Following the Bid opening, withdrawal of Bids shall be governed by Ohio Revised Code Section 9.31.

4.5.2 A Bidder may withdraw a Bid from consideration after the Bid opening if the Bid amount was substantially lower than the amounts of other Bids, providing the Bid was submitted in good faith, and the reason for the Bid amount being substantially lower was a clerical mistake, as opposed to a judgment mistake, and was actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of Work, labor, or material made directly in the compilation of the Bid amount.

4.5.2.1 Notice of a request to withdraw a Bid shall be made in writing filed with the Owner within two (2) business days after the conclusion of the bid opening. The Owner reserves the right to request the Bidder to submit evidence substantiating the Bidder's request to withdraw the Bid.

4.5.2.2 No Bid may be withdrawn under Section 4.5.2 which would result in awarding a Contract involving the same item on another Bid to the same Bidder.

4.5.3 If a Bidder withdraws its Bid under Section 4.5.2, the Owner may award the Contract to the next lowest responsive and responsible Bidder, or reject all Bids and rebid the Project. In the event the Owner rebids the Project, the withdrawing Bidder shall pay the costs, in connection with the re-bidding, of printing new Bidding Documents, required advertising, and printing and mailing of notices to prospective Bidders, if the Owner finds that these costs would not have been incurred but for the withdrawal.

4.5.4 If the Owner contests the right of a Bidder to withdraw a Bid pursuant to Section 4.5.2, it shall hold a hearing within ten (10) days after the Bid opening and the Owner shall issue an order allowing or denying the claim of this right within five (5) days after the hearing is concluded. The Owner shall give the withdrawing Bidder timely notice of the time and place of the hearing. The Owner shall make a stenographic record of all testimony, other evidence, and rulings on the admissibility of evidence presented at the hearing, and the Bidder shall pay the costs of the hearing. Pursuant to Ohio Revised Code Section 119.12, the Bidder may appeal the order of the Owner.

4.5.5 In the event the Owner denies the request for withdrawal and the Bidder elects to appeal or otherwise refuses to perform the Contract, the Owner may reject all Bids or award the Contract to the next lowest responsive and responsible Bidder.

4.5.6 A Bidder who is permitted to withdraw a Bid under Section 4.5.2 shall not supply material or labor to, or perform a subcontract or other work for, the person to whom the Contract is awarded, or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted, without the Owner's prior written consent. The person to whom the Contract was awarded and the withdrawing Bidder are jointly liable to the Owner in an amount equal to any compensation paid to or for the benefit of the withdrawing Bidder without such approval, in addition to the penalty provided for in Ohio Revised Code Section 2913.31.

4.5.7 A request for a withdrawal of a Bid that is made more than two business days after the conclusion of the Bid opening shall be subject to Section 4.2.2 herein.

ARTICLE 5. CONSIDERATION OF BIDS

5.1 OPENING OF BIDS

5.1.1 Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders. Bids will be recorded showing the date and time received. Bids received prior to the time of opening will be securely kept, unopened. No responsibility will be accepted for the premature opening of a Bid not properly addressed and identified.

5.1.2 The public opening and reading of Bids is for informational purposes only and is not to be construed as an acceptance or rejection of any Bid submitted.

5.1.3 The contents of the Bid envelope shall be a public record and open for inspection, upon request, at any time after the completion of the entire Bid opening, except for any information that is not a public record under Ohio law.

5.1.4 All Bids shall remain open for acceptance for sixty (60) days following the day of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid Guaranty prior to that date.

5.2 BID EVALUATION

5.2.1 The Owner shall have the right in its sole discretion to reject any or all Bids and submit the Project or any components thereof for rebidding. A Bid not accompanied by a required Bid Guaranty or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

5.2.2 The Owner will have the right to take such steps as it deems necessary to determine the responsibility of the Bidder and the ability of the Bidder to perform the Work, and the Bidder shall furnish the Owner and Architect such data for this purpose as they may request. Such data may include but not be limited to:

5.2.2.1 Overall experience of the Bidder, including number of years in business under present and former business names. If the Bidder's management operates or has operated another construction company, the Owner may consider the work history of that company in determining the overall experience of the Bidder;

5.2.2.2 Complete listing of all ongoing and completed public and private construction projects of the Bidder in the last three years, including the nature and value of each contract and a name/address/phone number for each owner;

5.2.2.3 Complete listing of any public or private construction projects for which the Bidder has been declared in default; also, any EPA, OSHA or other regulating entity issues or citations in the last ten (10) years;

5.2.2.4 Additional financial information, including certified financial statements, bank references, and information concerning Bidder as reported by Dun & Bradstreet and other similar reporting services, all of which shall be confidential except under proper order of a court and shall not constitute a public record under Ohio Revised Code 149.43;

5.2.2.5 Description of relevant equipment and facilities of the Bidder;

5.2.2.6 Description of the management experience of the Bidder's project manager(s) and superintendent(s);

5.2.2.7 Complete list of Subcontractors which the Bidder proposes to employ on the Project;

5.2.2.8 Current Ohio Workers' Compensation Certificate;

5.2.2.9 If the Bidder is a foreign corporation, i.e., not incorporated under the laws of Ohio, a Certificate of Good Standing from the Secretary of State showing the right of the Bidder to do business in the State; or, if the Bidder is a person or partnership, the Bidder has filed with the Secretary of State a Power of Attorney designating the Secretary of State as the Bidder's agent for the purpose of accepting service of summons in any action;

5.2.2.10 Any prior rejections of a Bid submitted by the Bidder on a public project.

5.2.3 Failure to timely submit the requested information may be grounds for rejecting the Bid.

5.2.4 The right is reserved to reject Bids where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is a responsible Bidder.

5.2.5 Bids which contain qualifications or conditions that are contrary to the text or intent of the Bidding Documents, and which are inserted in the Bid or submitted subsequent to the Bid opening for the purpose of limiting or otherwise qualifying the obligations of the Bidder, outside of the text or intent of the Bidding Documents, may be subject to disqualification.

5.2.6 The Owner reserves the right to reject the Bid of a Bidder who has previously failed to perform properly or to complete Contracts of a similar nature on time, who is not in a position to perform the Contract, or who has habitually, and without just cause neglected the payment of bills or otherwise disregarded its obligations to subcontractors, material persons, or employees.

5.2.7 The Owner reserves the right to waive, or to allow any Bidder a reasonable opportunity to cure, a minor irregularity or technical deficiency in a Bid, provided the irregularity or deficiency does not affect the Bid amount or otherwise give the Bidder a competitive advantage.

5.2.8 The Bidder authorizes the Owner and its representatives to contact the owners and professionals (including but not limited to architects, engineers and construction managers) on projects on which the Bidder has worked. Bidder shall provide full contact information for such owners and professionals, and Bidder authorizes such owners and professionals to provide the Owner with a candid evaluation of the Bidder's performance. By submitting its Bid, the Bidder agrees that if it or any person, directly or indirectly, on its behalf or for its benefit brings an action against any of such owners or professional or the employees of any of them as a result of or related to such candid evaluation, the Bidder will indemnify and hold harmless such owners and professionals and the employees of any of them from any claims whether or not proven that are part of or are related to such action and from all legal fees and expenses incurred by any of them arising out of or related to such legal action. This obligation is expressly intended for the benefit of such owners and professionals, and the employees of each of them.

5.3 ACCEPTANCE OF BID (AWARD)

5.3.1 Subject to the right of the Owner to reject each and every Bid, the Owner will award the Contract for the Work to the lowest responsible Bidder. In determining which Bid is the lowest responsible Bid, the Owner may take into consideration not only the amount of the Base Bid and the Bids for any Alternate the Owner determines to accept but such of the following criteria as Owner, in its discretion, deems appropriate, and Owner may give such weight thereto as it deems appropriate:

5.3.1.1 The Bidder's financial condition and ability to complete the Contract successfully without resort to its surety;

5.3.1.2 The Bidder's prior experience, including experience with similar work on comparable or more complex projects;

5.3.1.3 The management skills of the Bidder, including the competency and experience of the Bidder's proposed supervisory and management staff and the capability of the Bidder to construct and manage the entire Project, including but not limited to the plumbing, fire protection, heating, ventilating and air conditioning and electrical branches or classes of the Work;

5.3.1.4 The Bidder's prior history for the successful and timely completion of projects;

5.3.1.5 The Bidder's equipment and facilities;

5.3.1.6 The adequacy, in numbers and experience, of the Bidder's work force to complete the Contract successfully and on time;

5.3.1.7 The Bidder's prior experience on other projects of the Owner, including the Bidder's demonstrated ability to complete its work on these projects in accordance with the Bidding Documents and on time;

5.3.1.8 The Bidder's history of compliance with federal, state, and local laws, rules, and regulations;

5.3.1.9 A Bidder who submits a Bid for Work as a mechanical contractor or which includes mechanical contracting (i.e., electrical, plumbing, hydronics, refrigeration or heating, ventilating and air conditioning) shall submit evidence of licensure of the Bidder or applicable subcontractor by the Ohio Construction Industry Licensing Board;

5.3.1.10 The Owner's prior experience with the Bidder's surety;

5.3.1.11 The Bidder's interest in the Project as evidenced by its attendance at any pre-bid meetings or conferences for Bidder;

5.3.1.12 The Bidder's ability to work with the Owner, Architect and other Project personnel as a willing, cooperative and successful team member;

5.3.1.13 The Bidder shall certify it has not had a professional license revoked in the past five years in Ohio or in any other state;

5.3.1.14 The Bidder shall certify it has not been debarred from any public contract, federal, state or local, in the past five years;

5.3.1.15 Other essential factors as deemed appropriate by the Owner;

5.3.1.16 The foregoing information with respect to each of the subcontractors and suppliers that the Bidder intends to use on the Project.

ARTICLE 6. POST-BID INFORMATION

6.1 CONTRACTOR'S QUALIFICATION STATEMENT

Bidders to whom award of a Contract is under consideration shall submit to the Architect as promptly as possible but no later than 48 business hours after Bid opening a statement of the Bidder's qualifications. Unless a qualifications statement is contained in the Project manual, Bidder shall use the AIA A305 form. Bidder shall thereafter promptly provide to the Architect no later than 24 business hours after request such additional information as the Architect may reasonably request regarding the Bidder's responsibility.

6.2 SUBMITTALS

6.2.1 The Bidder shall within 48 hours after Bid opening, or such longer time as may be permitted by Owner, furnish to the Owner through the Architect in writing the following information. Failure to submit this information within the required time may be grounds for rejection of the Bid:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work;
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work;
- .4 the list of all proposed Subcontractors and suppliers; and
- .5 the breakdown of the labor and material for the Project, including the sum thereof.

6.2.2 The Bidder will be required to establish to the satisfaction of the Owner the reliability and responsibility of the persons or entities proposed to furnish materials and perform the Work described in the Bidding Documents.

6.2.3 Prior to the execution of the Contract, the Owner will notify the Bidder in writing if, after due investigation, the Owner has reasonable objection to a person or entity proposed by the Bidder. If the Owner has reasonable objection to a proposed person or entity, the Bidder shall submit an acceptable substitute person or entity at no additional cost to Owner.

6.2.4 Persons and entities proposed by the Bidder and to whom the Owner has made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

6.3 NOTICE OF INTENT TO AWARD

6.3.1 The Owner shall notify the apparent successful Bidder of the Owner's intent to award the Bid of the Bidder. Following such notice, the Bidder shall submit the information listed in Section 8.4 as well as such additional information as required by Owner. The Owner reserves the right to rescind the notice if the Owner determines the notice was issued in error. The failure to submit required information or to meet the conditions specified in Section 8.4 herein on a timely basis may result in the determination that the Bidder is not the lowest responsible Bidder.

6.3.2 It is understood that notification of the Owner's intent to award does not constitute the formation of a Contract between Owner and Bidder, and it is further understood that acceptance by the Owner's governing body of the Bidder's Bid and the execution of a formal written Agreement by both the Owner and Bidder, which Agreement must contain a fiscal officer certificate as required by statute, are conditions to the formation of a Contract.

ARTICLE 7. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on the Form of Agreement Between Owner and Contractor as contained in the Bidding Documents.

ARTICLE 8. SUPPLEMENTAL BIDDING INFORMATION

8.1 Communications for the administration of the Contract shall be as set forth in the Contract and, in general, shall be through the Architect.

8.2 If the Owner and a Bidder enter into a contract within 60 days of the Bid opening, the Contractor shall pay any and all material, labor or Subcontract cost increases which have occurred since the Bid opening. Contracts entered into beyond the 60-day period may contain additional amounts for cost increases if the cause for delay is not the fault of the Contractor.

8.3 By submitting a Bid, the Bidder represents that the Bidder is not subject to a finding for recovery under Ohio Revised Code Section 9.24, or that Bidder has taken the appropriate remedial steps required under Ohio Revised Code Section 9.24, or otherwise qualifies under this section.

8.4 Prior to the signing of a Contract, the successful Bidder shall furnish:

8.4.1 Certificates of insurance meeting the requirement of the Contract.

8.4.2 Performance and payment bond (if required by, and not already provided in accordance with, Section 4.2 herein).

8.4.3 Ohio Workers' Compensation Certificates.

8.4.4 If a Bidder is a foreign corporation (e.g., not incorporated under the laws of Ohio) it must submit a Certificate of Good Standing from the Ohio Secretary of State showing the right of the Bidder to conduct business in the state of Ohio.

8.4.5 If a Bidder is an individual or partnership, nonresident of the State, it must submit a Power of Attorney designating the Ohio Secretary of State as the Bidder's agent for accepting service of summons in any action brought under ORC Section 153.05 or under ORC Sections 4123.01 to 4123.94, inclusive.

8.4.6 Tax affidavit (Ohio Revised Code Section 5719.042).

8.4.7 Proof of enrollment in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Workplace Program or an equivalent program in accordance with Ohio Revised Code Sections 153.03 to 153.031.

8.5 The award of the Contract and the execution of the Contract are based upon the expectation that the lowest responsible Bidder will comply with the requirements of Section 8.4. Noncompliance with the requirements within five (5) days of the date that the Bidder is notified of the notice of intent to award the Contract in accordance with Section 6.3 herein shall constitute a failure of the Bidder to execute the Contract and be cause for the Owner to cancel the award to the Bidder and to award the Contract to another Bidder which the Owner determines is the next lowest responsive and responsible Bidder, or resubmit the Contract for bidding, at the discretion of the Owner. The Owner may extend the time for compliance with the conditions for good cause shown. No extension shall operate as a waiver of the conditions precedent for execution of the Contract.

DRAFT AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

[Board of Education of the Dublin City School District](#)
[6371A Shier Rings Road](#)
[Dublin, Ohio, 43016](#)

and the Contractor:
(Name, legal status, address and other information)

« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

[Wyandot Elementary School Plumbing Improvements](#)

The Architect:
(Name, legal status, address and other information)

[Advanced Engineering Consultants»](#)
[1405 Dublin Road](#)
[Columbus, Ohio 43215](#)

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

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~~EXHIBIT A — INSURANCE AND BONDS~~

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, [Bidding Requirements](#), Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9. [In the event of inconsistencies within or between parts of the Contract Documents, the Contractor shall provide the better quality or greater quantity of Work or comply with the more stringent requirement.](#)

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents [and reasonably inferable](#), except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

- [☐ »] The date of this Agreement.
- [☐ »] A date set forth in a notice to proceed issued by the Owner.
- [☐ »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« ☐ »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

[☐] Not later than () calendar days from the date of commencement of the Work.

[☐] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

§ 4.5.1 If the Contractor shall fail, neglect, and/or refuse to attain Substantial Completion of the Work by the date set forth in Section 3.3.1, Contractor shall be subject to liquidated damages (not a penalty) at the rate set forth below per calendar day for the total number of days the portion of that Work is delayed beyond the required Substantial Completion date:

LIQUIDATED DAMAGES

<u>Contract Sum</u>	<u>Dollars Per Day</u>
<u>\$100,000.00 or less</u>	<u>\$250.00</u>
<u>\$100,000.01 to \$500,000.00</u>	<u>\$500.00</u>
<u>\$500,000.01 to \$2,000,000.00</u>	<u>\$1,000.00</u>
<u>\$2,000,000.01 to \$5,000,000.00</u>	<u>\$2,000.00</u>
<u>\$5,000,000.01 to \$10,000,000.00</u>	<u>\$2,500.00</u>
<u>More than \$10,000,000.00</u>	<u>\$3,000.00</u>

Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed completion of the Work and shall be in addition to any other remedies available to Owner. The Owner may deduct liquidated damages from any unpaid amounts then or thereafter due Contractor. Any liquidated damages not so deducted shall be payable by the Contractor to the Owner upon demand. Liquidated damages are not intended to compensate the Owner for any damages the Owner incurs on account of any direct damages and claims attributable to the Contractor that are brought by others, including Separate Contractors.

→

§ 4.6 Other:

(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Owner and the Architect by the Contractor, such other supporting information and documentation as the Owner and Architect may require, and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents. The Contractor shall utilize AIA Document G-702, Application and Certificate for Payment unless a different form is designated by Owner or Architect.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, ~~or as follows:~~

↔

§ 5.1.3 Provided that an Application for Payment and all supporting information and documentation is received by the Architect not later than the ~~«fifth»~~ day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the ~~«last»~~ day of the ~~«that»~~ month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than ~~«thirty»~~ (~~«30»~~) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment. The Contractor shall utilize AIA Document G-703 in submitting its schedule of values unless a different form is designated by Owner or Architect.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

«Retainage shall be governed by the requirements of Ohio Revised Code Chapter 153.»

(a) Labor. Payments for labor performed will be at the rate of ninety six percent (96%) of the amount set forth in the Contractor's Application for Payment and approved by the Architect.

(b) Materials and Equipment. There shall be paid to the Contractor a sum at the rate of ninety-two percent (92%) of the invoice costs, not to exceed the scheduled value, of material delivered on the site of the Work, or suitably stored off site. The balance of the scheduled value will be payable when the materials and equipment are incorporated into the Project and accepted by Owner. The Contractor shall be paid at the rate of one hundred percent (100%) of the scheduled value for materials incorporated into the Project. Incorporated into the Project means such materials and equipment are installed and conform to the requirements of the Project. Partial or full payment to the Contractor for material, equipment, or Work in place shall not start any applicable warranty period.

(c) It shall be within the Owner's discretion to determine the type of investment account for placement of retainage, and interest earnings payable to the Contractor on the retainage is limited to just interest accrued on that retainage in the investment account selected by Owner.

(d) No Subcontractor shall be paid at a rate lower than the rate being paid to the Contractor under this Section 5.1.7.1.»

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

«N/A»

§ 5.1.7.2 ~~[intentionally Deleted]. Reduction or limitation of retainage, if any, shall be as follows:~~

~~(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)~~

«»

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

(Insert any other conditions for release of retainage upon Substantial Completion.)

«Owner may continue to withhold retainage in an amount reasonably necessary to assure final completion of the Work.»

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, ~~or as follows:~~

«»

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

«N/A» % «N/A»

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

~~*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*~~

«»

«»

«»

«»

§ 6.2 Binding Dispute Resolution

For any ~~Claim-dispute~~ subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017

☒ Litigation in a court of competent jurisdiction

☐ Other (Specify)

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)

«N/A – there shall be no termination fee.»

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as modified, amended or supplemented by the Owner or other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

(Name, address, email address, and other information)

Jeff Stark, Chief Operating Officer
Dublin City School District»
6371A Shier Rings Road
Dublin, Ohio 43016
Phone: (614) 760-4323
E-mail: stark_jeff@dublinschools.net

§ 8.3 The Contractor’s representative:

(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A201-2017 ~~AIA Document A101™ 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds,~~ and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds meeting the requirements of Ohio Revised Code Section 153.54 and elsewhere in the Contract Documents. ~~as set forth in AIA Document A101™ 2017 Exhibit A, and elsewhere in the Contract Documents.~~

§ 8.6 [Intentionally Deleted]. ~~Notice in electronic format, pursuant to Article 1 of AIA Document A201-2017, may be given in accordance with AIA Document E203™ 2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203-2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)~~

§ 8.7 Other provisions:

§ 8.7.1 Award of Subcontracts and Other Contracts for Portions of the Work

§ 8.7.1.1 Unless otherwise required by the Contract Documents or the Bidding Documents, within seven (7) days after the date of commencement of the Work, the Contractor shall submit the names of the Subcontractors, persons or entities it proposes to use, including those who are to furnish materials or equipment, the subcontract amount, and a list of such materials or equipment including the manufacturer thereof. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect has reasonable objection to any such Subcontractor, person or entity. Copies of bids or other proposals from such Subcontractors, persons or entities shall, upon request of the Owner or Architect, be submitted to the Owner and the Architect.

§ 8.7.1.2 The Contractor shall not contract with a proposed Subcontractor, person or entity to whom the Owner or Architect has made reasonable and timely objection as not responsible. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 8.7.1.3 If the Owner or Architect has reasonable objection to a Subcontractor, person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection.

§ 8.7.1.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution. The Contractor shall notify the Owner and the Architect of the proposed substitution of a Subcontractor, person, or entity a minimum of 10 days prior to the proposed change. The Owner may require the Contractor to change a Subcontractor, person or entity previously approved.

§ 8.7.2 Progress Meetings

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§ 8.7.2.1 The Architect may, as Architect deems necessary, schedule progress meetings for all Contractors. The purpose of the progress meeting is to review progress in the Work, discuss anticipated progress during the following weeks, and review critical operations and existing and potential problems. The Contractor shall attend and shall be represented at every progress meeting by a person authorized with signature authority to make decisions regarding possible modification of the Contract Documents, and the Contractor shall have any of the Contractor's Subcontractors and material suppliers attend the progress meeting as deemed advisable by the Contractor or as requested by the Architect.

§ 8.7.3 If all or part of any funds of the Contractor that are held by the Owner, whether it be retainage, escrowed funds, unpaid balance of the Contract Sum or otherwise, should be attached, garnished or levied upon under any order of court, or if the delivery thereof shall be stayed or enjoined by any order of court, or if any other writ, order, judgment, or decree shall be made or entered by any court affecting the held funds, or any part thereof whether with or without jurisdiction, and in case Owner obeys and complies with any such writ, order judgment, or decree, Owner shall not be liable to the Contractor, its successors, or assigns, and Contractor shall indemnify and hold Owner

harmless for its compliance with such writ, order, judgment or decree, notwithstanding that such writ, order, judgment or decree be subsequently reversed, modified, annulled, set aside, or vacated.

§ 8.7.4 Contractor shall adhere to the Owner's *Vendor Criminal History Record Check* requirements including certification on Contractor's letterhead the names of individuals who will be working on Owner property and who meet the requirements of the *Vendor Criminal History Record Check* requirements.

§ 8.7.5 Limitations on a Subcontractor's overhead and profit for increases or decreases in the cost of its portion of the Work shall be 15% of the sum of the Subcontractor's costs that are associated with that changed Work.

§ 8.7.6 The Contractor's fee for adjustment of the Contract Sum on account of a change in the Work shall not exceed ten percent (10%) of the sum of the costs described in Section 8.7.5 herein and Sections 7.3.4.1 through 7.3.4.6 of AIA Document A201-2017 that are associated with that changed Work provided however that the Contractor shall not assign any portion of the Work to another person or entity whereby the Contractor would benefit directly or indirectly from the double application of charges for overhead and profit.

§ 8.7.7 With respect to Section 7.3.4 of the General Conditions, rental rates for Contractor-owned equipment shall not exceed one hundred percent (100%) of the cost listed by the current edition of the Associated EquipmentWatch's *AED Green Book* heavy equipment rental rates, or if no such cost is listed, the standard rental rate paid at the place of the Project.

§ 8.7.8 On a minimum of a weekly basis, or otherwise as agreed to by the Owner, the Contractor shall submit written progress reports to the Owner and Architect, showing percentages of completion, activities in progress and expected completion, activities to be started or finished, and other information required by the Architect or Owner.

§ 8.7.9 Under no circumstances will the Contractor propose to use any materials or equipment which is not specified, and the failure by the Owner or Architect to object to materials or equipment which are not specified shall not constitute the approval of them.

§ 8.7.10 Owner will provide to Contractor, upon request, a completed State of Ohio Sales and Use Tax Construction Contract Exemption Certificate.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 This modified AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor
- .2 [Intentionally Deleted] AIA Document A101™-2017, Exhibit A, Insurance and Bonds
- .3 Modified AIA Document A201™-2017, General Conditions of the Contract for Construction as contained in the Project Manual dated
- .4 AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

«N/A»

- .5 Drawings

Number

Title

Date

- .6 Specifications

Section

Title

Date

Pages

- .7 Addenda, if any:

Number	Date	Pages

~~Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.~~

- .8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[«N/A»] AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

[«N/A»] The Sustainability Plan:

Title	Date	Pages

[«N/A»] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

- .9 Other documents, if any, listed below:

~~(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)~~

« »

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

«Brian Kern, Treasurer»

(Printed name and title)

CONTRACTOR (Signature)

« » « » « »

(Printed name and title)

CERTIFICATE (Section 5705.41, R.C.)

I certify that the money required to meet the obligations of the Board of Education during the current fiscal year under the Agreement has been lawfully appropriated for those purposes and is in the treasury or in the process of collection to the credit of an appropriate fund, free from any previous encumbrances. This Certificate is given in compliance with Section 5705.41 of the Revised Code.

By:

Brian Kern, Treasurer, Board of Education

Dated: _____, 2026

TELAR



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Wyandot Elementary School Plumbing Improvements

THE OWNER:

(Name, legal status and address)

Board of Education of the Dublin City School District
6371A Shier Rings Road
Dublin, Ohio, 43016

THE ARCHITECT:

(Name, legal status and address)

Advanced Engineering Consultants»
1405 Dublin Road
Columbus, Ohio 43215

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14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™–2017, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (these General Conditions, the Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary and reasonably inferable for the proper execution and completion of the Work by the Contractor, whether or not expressly shown or described. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and

enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor exercising the care, skill, and diligence required of the Contractor by the Contract Documents.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined or (2) the titles of numbered articles.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter. All personal pronouns used in this Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders; and the singular shall include the plural and vice versa. Titles of articles, sections, and subsections are for convenience only and neither limit nor amplify the provisions of the Contract.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 Unless otherwise indicated in the agreement between the Owner and the Architect, the Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Section 1.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.5.3 The Owner alone owns all Project-related documents, including those in electronic form, prepared by the Contractor and Subcontractors, and every right, title, and interest therein from the moment of creation. The Contractor must execute and deliver and cause its employees and agents and all Subcontractors to execute and deliver to the Owner any transfers, assignments, documents, or other instruments (if any) necessary to vest in the Owner complete right, title, interest in and ownership of the Contractor's documents. The Contractor may retain copies, including reproducible copies, of the Contractor's documents for information, reference, and performance of the Work. The submission or distribution of the Contractor's documents to meet official regulatory requirements or for similar purposes in connection with the Project is not a waiver of the Owner's reserved rights in the Contractor's documents. Any unauthorized use of the Contractor's documents shall be at the sole risk of the entity making the unauthorized use.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.2 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The Owner and Contractor acknowledge and reasonably expect that they will provide or cause to be provided electronic files to each other, including, but not limited to, Revit, Computer-Aided Design ("CAD") or Building Information Modeling ("BIM") files (collectively "Electronic Files"), and that they will receive Electronic Files from and provide Electronic Files to the Architect, to facilitate the design and construction of the Project consistent with current practices and customs in the construction industry. The Owner and Contractor acknowledge that the use of Electronic Files involves risks not generally associated with the use of paper documents. Those risks include, for example and without limitation, alteration (inadvertent or intentional) and deterioration, both of which may not be readily apparent through casual observation. The Owner and Contractor do not warrant to each other that any Electronic File they provide to each other or that they receive from or provide to the Architect (1) was not altered through transmission; (2) is compatible with the recipient's computer system or software; (3) will not be altered through degradation of the recipient's storage media; or (4) is suitable for conversion/translation to and subsequent use in a system or format other than the Electronic File's original system or format. Before relying on any Electronic File it receives, the recipient is responsible for verifying that the Electronic File was not altered through transmission, degradation of the recipient's own storage media, or other causes. If the recipient of an Electronic File converts/translates the Electronic File from its original system or format to an alternate system or format, the recipient assumes the risk that the conversion/translation created errors in the converted/translated file. Owner and Contractor shall each maintain and operate its own computer systems and storage media in a commercially reasonable way and take reasonable steps to prevent errors in and deterioration of the Electronic Files it creates, provides, and receives. In the event of a discrepancy between information contained in a paper version of a document and the Electronic File of that document, the paper version will govern. This Section does not relieve the Contractor of its responsibility for the preparation, completeness, or accuracy of the Contractor's documents. The parties shall also follow any other protocols governing the development, transmission, exchange and use of Instruments of Service, Electronic Files or any other information or documentation in digital form as may be agreed upon in writing by the Owner, Contractor and Architect.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to matters requiring the Owner's approval or authorization provided that the representative shall have only such authority as is expressly authorized by the Owner's governing board. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor a notice of commencement as may be required by Ohio Revised Code Chapter 1311. The Contractor shall provide a copy of any notice of commencement to its Subcontractor and any known Sub-subcontractors. The Contractor will immediately deliver to the Architect and Owner copies of notices of furnishing that Contractor receives.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain a professional design firm lawfully licensed to practice architecture or engineering, or an entity lawfully practicing architecture or engineering, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if

singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall, if necessary for the execution of the Work, furnish surveys or other information describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and reasonably necessary and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. The rights of the Owner under this Section are in addition to Owner's rights and remedies contained elsewhere in the Contract Documents.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to correct such default or neglect, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. If such default or neglect results in an emergency and/or a threat to the safety of persons or property, the Contractor shall immediately commence and continue without interruption using best efforts to correct such default or neglect upon receipt of written or oral notice thereof or otherwise becoming aware, and if Contractor fails to do so, then Owner may correct such default or neglect. The Owner or Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15. The rights of Owner under this Section are in addition to the rights of Owner as set forth in Articles 12 and 14 herein.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 The Contractor shall attend preconstruction meetings with representatives of the Architect and Owner. The Contractor shall have any of its Subcontractors and suppliers at the meeting as necessary or as requested by the Architect. The preconstruction meetings will serve to acquaint the participants with the general plan of the

construction operation and all other requirements of the Project. The date, time, and place of the meetings will be designated by the Owner.

§ 3.1.5 If the Project is designed and constructed with a Sustainable Objective identified in the Agreement for the Project, the Contractor shall perform the Work for which the Contractor is responsible in furtherance of the Sustainable Objective and shall provide submittals certifying achievement of the Sustainable Objective criteria for verification by a third party, and the submittals shall be provided in accordance with any deadlines set forth in the schedule and Contract Documents. In the absence of schedules or deadlines, the Contractor will submit the documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or Separate Contractors. The Contractor shall include with any requests for substitution any potential effect the substitution may have on the Sustainable Objective. The Contractor grants to the Architect and Owner the right to submit the Contractor's submittals to the rating system as required in order to achieve or maintain the Sustainable Objective.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents. By executing the Agreement, the Contractor certifies that it has evaluated and satisfied itself as to the conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, including but not limited to utilities, access restraints to the Project site and access restraints to neighboring facilities, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools, and equipment, and (v) other similar issues. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the Contractor or any Subcontractor to have complied with the requirements of this Section 3.2.1.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. The Contractor shall satisfy itself as to the accuracy of all grades, elevations, dimensions, and locations. In all cases of interconnection of its Work with existing or other work, Contractor shall verify at the site all dimensions relating to such existing or other work. Any errors due to the Contractor's failure to so verify all such grades, elevations, dimensions, or locations shall be promptly rectified by the Contractor without any additional cost to the Owner. These obligations are for the purpose of facilitating coordination and construction by the Contractor, for determining that the Work is constructible, for determining if the Work of the Contractor is coordinated in the Contract Documents with the Work of Separate Contractors under a separate contract with the Owner, and for verifying that field conditions, including the Work of other Contractors, are consistent with the information in the Contract Documents and ready for Work and are not for the purpose of discovering errors, omissions, or inconsistencies in the design information contained in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require, and proceeding without reporting such nonconformity shall make the Contractor responsible for any costs and expenses incurred by the Contractor related to the claimed deficiencies.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15, and the time limit for initiating a Claim begins to run on the date of the Architect's issuance. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or

omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents and/or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.2.6 If the Architect does not specify a form for Contractor to submit a request for information, then Contractor shall utilize the AIA Document G-716.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors, including Sub-subcontractors of any tier, and Contractor shall be responsible for ensuring the performance of the Work regardless of whether the work is performed by the Contractor, a Subcontractor or Sub-subcontractors of any tier. The Contractor shall be responsible for scheduling and coordinating the work of its Subcontractors and suppliers. This section shall apply with equal force and effect regardless of whether any Subcontractors are selected by the Contractor or assigned by the Owner.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, storage and other facilities and services necessary for proper execution and completion of the Work, including but not limited to field offices, toilets, other trailers, or buildings, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The Contractor shall use best efforts to conserve any utilities furnished by Owner.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. The Contractor shall provide all data, information, regulations and certifications required by Architect and Owner in evaluating the proposed substitution. The Owner shall be entitled to reimbursement from the Contractor for amounts paid for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents, will be of

good workmanship and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements shall be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, improper alterations to the Work except when executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. Owner will provide to Contractor, upon request, a completed State of Ohio Sales and Use Tax Construction Contract Exemption Certificate.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for all other permits, fees, licenses, and inspections by utilities or government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If Contractor disputes the Architect's determination or recommendation, the Contractor may submit a Claim as provided in Article 15, and the time limit for initiating a Claim as set forth in Section 15.1.2 herein related to subsurface, concealed or unknown conditions begins to run on the date the Architect issues its determination or recommendation.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum, not in the allowances, and shall not be chargeable against the allowance; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2. The Contractor shall obtain a Change Order before incurring any costs in excess of an allowance.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 If not already approved in advance by the Owner, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner or Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed. The Owner shall have the right to require the Contractor to remove a superintendent from the Project whose performance is not satisfactory, and to replace the superintendent with a superintendent who is satisfactory to the Owner.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 If not already provided to the Owner in accordance with the Agreement, the Contractor, promptly after execution of the Agreement or Guaranteed Maximum Price Amendment, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the dates of Substantial Completion and final completion; (2) an apportionment of the Work by construction activity; (3) identifying the critical path of the Work; (4) a graphic representation of activities and events that will occur during performance of the Work; (5) identifying the crew size and total resource hours for each activity in the schedule; (6) identifying disruptions and shutdowns; and (7) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. If the schedule is not accepted by the Owner and Architect, the Contractor shall promptly revise the schedule in accordance with the recommendations of the Owner and Architect and resubmit to Owner and Architect for acceptance. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.1.1 In certain occupied buildings, tasks might be of such a nature that noise and vibration cannot be tolerated. In such spaces, Work shall be scheduled for other than normal working hours. The Contractor is cautioned that weekend or overtime work, if required to avoid such noise and vibration, shall be performed at no additional cost. Permission to work other than standard hours shall be received from the Owner prior to the occurrence. Weekend and overtime Work shall be reflected in the construction schedule.

§ 3.10.1.2 In the event that critical path activities, schedule milestone completion dates, Substantial Completion or final completion dates will not be met, Contractor shall devise an affirmative time recovery plan acceptable to the Owner and Architect to avoid or minimize any delay. Such a plan may include, without limitation, increasing the Contractor's workforce in such quantities as will eliminate the backlog of Work, increasing the number of working hours per shift, shifts per workday, workdays per week, the amount of construction equipment, or any combination thereof, rescheduling of activities to achieve maximum practical concurrency of Work efforts and, if appropriate, time extensions.

§ 3.10.1.3 Unless otherwise provided in the Agreement, or unless different intervals are agreed to by the Owner, the Contractor shall update the construction schedule bi-weekly consistent with time limits established under the Contract Document and shall obtain the Owner's and Architect's approval. The updated construction schedule shall show all changes to the previous schedule. The updated construction schedule shall be signed by the Contractor and shall serve as an affirmation that the Contractor agrees to and can meet the requirements of the updated construction schedule.

§ 3.10.1.4 The Contractor shall participate with Separate Contractors and the Owner in reviewing their construction schedules and the Contractor shall coordinate its Work with the activities of the Owner's own forces and of Separate Contractors. The Contractor shall make any revisions to the construction schedule in order to coordinate its Work as required by this Section.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, the approved Shop Drawings, Product Data, Samples, and similar required submittals, accurate, current and reproducible as-built drawings (showing Work as actually performed, variations from the original Contract Documents and the location of any concealed and/or buried items, utilities, mechanical or electrical systems and components), and accurate records of any changes made to the Specifications, noting particularly any variation from manufacturer's installation instructions and recommendations. Contractor shall also maintain at the site: a daily log in which it has recorded Project related information, including but not limited to, weather, number of workers on site, identification of equipment, Work accomplished, problems encountered and other similar relevant Project data; manufacturers' installation, operating and/or maintenance instructions or requirements, certificates and warranties; any special guarantees or warranties required by the Contract Documents; all the Contractor's communications, including but not limited to letters, memoranda, e-mails, invoices and bills of lading, arising out of or related to the Project with the Architect, Owner, and/or Subcontractors, suppliers and/or employees; assignment of all guarantees or warranties from Subcontractors, vendors, suppliers or manufacturers; a list of the names, addresses and telephone numbers of all Subcontractors and any other persons providing guarantees and warranties; and quality control procedures and documents related thereto. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. In the event of conflicts between submittals and the Contract Documents, the Contract Documents take precedence and govern the Work. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals

upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. The Contractor shall pay all costs incurred by the Architect and Owner for attendant delay, interference, hindrance or disruption of the Project due to (i) review of submittals out of sequence from the agreed-upon schedule provided that the Architect has demonstrated that it has been financially impacted and/or (ii) due to excessive re-submittals without fault of the Architect. Unless otherwise provided in the Contract Documents, re-submittals in excess of one (1) without fault of the Architect or Owner shall be deemed excessive. If the Shop Drawings or other submittals show variations from the requirements of the Contract Documents, the Contractor shall specify such variations in the Contractor's letter of submittal to the Architect accompanying the submittal. Variations must be approved in writing.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof. The review and approval of a separate item shall not indicate approval of the assembly in which the item functions.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to reasonably rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall use commercially reasonable efforts to minimize any interference with the occupancy or beneficial use of (i) any areas and buildings adjacent to the site of the Work and (ii) the Project site and any buildings located thereon in the event of partial occupancy. Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the Owner.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials, dirt, dust and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project except that the Contractor shall give to the Owner any surplus materials that are required by the Contract Documents, but not incorporated into the Project, for future maintenance or repairs. The Contractor shall be responsible for compliance with all requirements regarding notification and disposal of construction demolition debris.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) and/or a violation of applicable law, but only to the extent caused by the negligent acts or omissions or willful misconduct of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable,

regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by any insurance policy provided or required in connection with the Project and/or a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts. As between the Owner and Contractor, Contractor waives its immunities as may be applicable under law for purposes of confirming the indemnity obligations of this Agreement. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of all parties, including the Owner and Contractor; all sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 3.19 Underground Utility Facilities

§ 3.19.1 The Contractor shall comply with ORC Sections 3781.25 through 3781.32. In addition, before starting excavation or trenching, the Contractor shall determine the location of any underground utilities and notify any public authority or utility having jurisdiction over the Project and secure any required approval. The Contractor shall alert immediately the occupants of any premises near the Work and the Architect as to any emergency that it may create or discover. The Contractor shall notify the operator of the underground facility and the Architect of any break or leak in the utility lines or any dent, gouge, groove, or other damage to such lines made or discovered in the course of excavation.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment and for such additional periods thereafter as the Owner and Architect may agree. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents. The Contractor shall reimburse the Owner for amounts paid to the Architect for site visits that are in addition to what is required of the Architect as described in this Section and that are made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project and the Contractor shall do likewise with respect to direct communications with the Owner. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work, including those tests and inspections as provided in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under the Contract, including but not limited to Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of the Project representatives shall be as set forth in the agreement between the Owner and Architect.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in accordance with its standard of care.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be subject to Owner's prior approval.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work, including material suppliers. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work, including material suppliers. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor of any tier or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Retention of Subcontractors shall be as set forth in the Agreement.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall provide that the Owner is a third party beneficiary of the subcontract agreement and shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors. Contractor shall promptly provide to Owner copies of any subcontract agreement along with copies of all bids or other proposals from Subcontractors. The subcontract agreement shall meet the applicable requirements of Ohio Administrative Code 153:1-3.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall lay out and install its Work at such time or times and in such manner as not to delay or interfere with the carrying forward of the Work of Separate Contractors. The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

§ 6.4 Owner's Provided Materials

The Owner may provide materials for Contractor to incorporate into the Project, and the Contractor shall incorporate such materials as part of its Work for the Project. The Contractor shall be fully responsible for and the Contract Sum shall cover, all matters relating to the receipt of materials provided by Owner as if the Contractor were the original purchaser, including but not limited to verifying correct quantities; coordinating purchases; providing, obtaining and managing all warranties and guarantees required by the Contract Documents including assistance to the Owner with the enforcement of such warranties and guarantees; inspection and acceptance of the materials; and loss or damage to the materials following acceptance of the materials by the Owner due to the negligence of the Contractor. The Contractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other

arrangements normally required by the Contractor for the particular material furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. The Contractor shall determine prior to incorporation into the Work if such materials are patently defective and whether they are in conformity with the Contract Documents (and, if applicable, any specifications provided by the Owner). If the Contractor discovers defects or non-conformities upon such visual inspection, the Contractor shall not utilize such materials in the Contractor's Work and instead shall properly notify the Owner of the defective or nonconforming condition so that repair or replacement of those materials can occur without undue delay or interruption to the Project. If the Contractor fails to perform such inspection and incorporates such defective or non-conforming materials into the Contractor's Work, Contractor shall be responsible for all damages to the Owner resulting from Contractor's incorporation of such materials into the Work. The Contractor shall maintain records of all Owner-provided materials it incorporates into the Work and shall account to the Owner for all Owner-provided materials delivered into the Contractor's or Subcontractor's possession.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 The Contractor shall not proceed with any change in the Work without the appropriate written authorization. Except as otherwise provided herein, the Contractor's failure to obtain prior written authorization for a change in the Work shall constitute a waiver by the Contractor of an adjustment to the Contract Sum and/or Contract Time for the related Work. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs and consequential damages associated with such change, the cumulative impact of the associated change in the Work in combination with one or more other changes in the Work, and any and all adjustments to the Contract Sum and the Contract Time. The Contractor is not entitled to reserve any rights or take other similar action with respect to a Change Order if the effect or intent of the reservation or action would be to accommodate a further adjustment of the Contract Sum or Contract Times, or both, after the Contractor signs the Change Order. A Change Order signed by the Contractor without any indication of change in the Contract Sum and/or Contract Time indicates the Contractor's agreement that there will be no change in the Contract Sum and/or Contract Time. Unless agreed otherwise by the parties, the Change Order form shall be the AIA Document G-701.

§ 7.2.3 The Contractor shall proportionately increase the amount of its bond whenever the Contract Sum is increased. If notice of any change affecting the Contract is required by a provision of the bond, giving the notice shall be the Contractor's responsibility.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes

in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner or Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Owner or Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs or credits arising from a change in the quantity of field labor directly involved in the Work, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect. Each of the fringe benefits shall be a separate line item, and the Contractor shall submit documentation supporting the calculation of the amounts for each fringe benefit for each worker. Each of the allowable payroll expenses shall be a separate line item. Costs that shall not be reimbursed include voluntary employee deductions (such as but not limited to deductions for charitable donations or U.S. savings bonds) and employee profit sharing;
- .2 Costs of materials, supplies, and equipment, including cost of transportation (based on reasonable delivery charge or per-mile trucking charge for delivery of required materials or equipment), whether incorporated or consumed. The cost or credit for reusable materials (e.g. concrete form lumber, shoring, or temporary enclosures) shall be limited to 33 percent of the material cost for each use;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others. Downtime due to repairs, maintenance and weather delays shall not be allowed;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change;
- .5 Costs or credits arising from a change in the quantity of supervision and field office personnel directly attributable to the change;
- .6 General Conditions Costs. Any costs or credit arising from a change in the quantity of the Contractor's general conditions costs shall be limited to the extent to which the change is attributable to an associated change in the Contract Time for attainment of Substantial Completion resulting from the change in the Work.

§ 7.3.5 If the Contractor disagrees with the adjustment as determined by the Architect, the Contractor may make a Claim in accordance with applicable provisions of Article 15, and the timeline for initiating a Claim begins to run on the date the Architect issues its final determination.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive. Disagreements with the Architect's final determination shall be resolved in accordance with Article 15.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time. Unless otherwise designated by the Architect, the form to be utilized by Architect in authorizing minor changes in the Work shall be the AIA Document G-710, Architect's Supplemental Instructions.

§ 7.5 Proposal Requests

§7.5.1 The Architect may issue to Contractor at any time a proposal request for a change in the Work, including a change in the Contract Sum and Contract Time (a "Proposal Request"). A Proposal Request is not a Change Order, a Construction Change Directive, an order for a minor change in the Work, or authorization to proceed with the change in the Work described in the Proposal Request. Unless otherwise designated by the Architect, the form to be utilized by Architect for a Proposal Request shall be the AIA Document G709, Proposal Request.

§7.5.2 The Contractor shall respond with a proposal to the Architect (a "Proposal") within seven (7) days after receiving the Proposal Request, and the Contractor shall include with its Proposal the Contractor's proposed adjustments to the Contract Sum and Contract Time. The allowable time for the Contractor's response may be extended by written agreement of the Contractor, the Owner and the Architect. Failure to respond within the allowed time frame may result in the Owner proceeding with the work through any other means.

§7.5.3 The Contractor shall hold the Proposal valid and open for acceptance for at least thirty (30) days. The acceptance period may be adjusted by mutual written consent of the Contractor and the Owner.

§7.5.4 The Owner may accept the Proposal in writing at which point the Contractor's obligations to perform the work as outlined in the Proposal shall become binding. The parties promptly thereafter shall memorialize the Owner's acceptance of the Proposal through a Change Order.

§ 7.6 Request for Change Order

§7.6.1 The Contractor may initiate a Change Order request by submitting written notice to the Architect and Owner accompanied by a Proposal meeting the requirements of Section 7.5.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established pursuant to the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined. Where the term “business day” is used, if the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 Subject to other provisions of the Contract, the Contractor will not be entitled to an increase in the Contract Sum and will only be entitled to an extension of the Contract Time on account of delay in the commencement or progress of Work on the critical path of the construction schedule caused by acts of nature or the public enemy, acts or orders of the government not arising from the Contractor's failure to comply with applicable law, fires, floods, weather, and labor disputes beyond the Contractor's control.

§ 8.3.2 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, or an extension of the Contract Time, or both: (i) on account of the impact of any normal adverse weather on any of the Work or on account of the impact of any abnormal adverse weather on Work not on the critical path; (ii) to the extent that a delay occurs concurrently with a delay attributable to the Contractor; or (iii) on account of the delay of any Work not on the critical path.

§ 8.3.3 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum or any type of damages on account of a delay in the commencement or progress of Work on the critical path unless (i) the delay is caused by the Owner or (ii) the delay was not authorized or permitted under the Contract.

§ 8.3.4 Claims under this Section 8.3 shall be made in accordance with applicable provisions of Article 15.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed by twenty percent (20%) or more so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, and unless a different timeline is specified in the Agreement, the Contractor shall submit a schedule of values to the Architect within ten (10) days following the date of commencement of the Work, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values, including changes to the Contract Sum and changes required by the Architect if the Architect subsequently determines the schedule of values to be in any way unreasonable or inaccurate, shall be promptly submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 In accordance with the timelines established in the Agreement, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by (i) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous Application for Payment was submitted have been paid or otherwise satisfied; (ii) a current list of the Subcontractors and suppliers showing their respective contract sums, amounts paid, and amounts due; (iii) schedule of all materials and equipment stored on-site; (iv) documentation required for materials and equipment stored off-site; (v) conditional lien waivers and releases from Contractor and from all Subcontractors and suppliers to be paid from the payment resulting from the Application for Payment; (vi) unconditional lien waivers and releases from Contractor and from all Subcontractors and suppliers for which Contractor was required to provide a conditional lien waiver in connection with a prior Application for Payment; and (vii) such other data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.2.1 The Contractor's request for storage of materials and equipment off site shall minimally include:

- .1 A list of the fabricated materials consigned to the Project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.
- .2 Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.
- .3 A letter from the Contractor's surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve the Contractor of its responsibility to complete the Work.
- .4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as an additional insured.
- .5 Information pertaining to the Contractor's place of storage, the layout and security of the place of storage, and such information that verifies that the materials are securely stored at the place of storage.
- .6 Subsequent Applications for Payment shall itemize the materials and their cost which were approved on previous Applications for Payment and remain in off-site storage.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding

certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, the Contractor may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Contractor disputes a determination by the Architect with regard to a Certificate of Payment, and during any related dispute resolution, litigation, or other proceeding, the Contractor nevertheless shall continue to prosecute the Work.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than the timeline set forth in Ohio Revised Code 4113.61, after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 [Intentionally Deleted].

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier, including but not limited to claims for unjust enrichment. In the event that the Owner receives a claim affidavit in accordance with Ohio Revised Code Chapter 1311 relating to amounts due and unpaid for labor and work performed and material furnished for the Work, the Owner shall detain the amount due and owing from the Contractor unless and until the claim is released and/or discharged as more particularly set forth in said Chapter 1311. Posting a bond or other security discharging a lien shall not relieve the Contractor of its indemnity obligations in this Section.

§ 9.7 Failure of Payment

If the Owner, through no fault of the Contractor, does not pay the Contractor within seven days after the date established in the Agreement, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received provided that Contractor shall not stop Work for non-payment if the Owner initiates the payment process for any undisputed amounts due the Contractor.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents, including all necessary testing and/or startup, and when all required occupancy permits and any other necessary permits and approvals, if any, have been issued, so that the Owner can occupy or utilize the Work for its intended use, subject only to the completion or correction of minor items of Work that will not interfere with or hinder the Owner's use of the Work and areas adjacent to the Project site.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete or correct all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is Substantially Complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine Substantial Completion in excess of one (1) without

the fault of the Architect or Owner shall be deemed excessive.

§ 9.8.4 When the Work or designated portion thereof is Substantially Complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate (the “punch list”), or, if no timeframe is fixed, then not greater than thirty (30) days from the date of the Certificate. Failure to include an item on the Certificate and punch list does not alter the responsibility of the Contractor to complete or correct deficiencies in the Work in accordance with the Contract Documents. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, and following certification of an Application for Payment, the Owner shall make payment of retainage as set forth in the Agreement.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is Substantially Complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion Substantially Complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon in writing, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor’s notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect’s knowledge, information and belief, and on the basis of the Architect’s on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect’s final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor’s being entitled to final payment have been fulfilled. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine final completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for the Project (less amounts withheld by Owner) have been paid or otherwise satisfied (unless a different form is agreed to, Contractor shall provide the AIA Document G-706, Contractors Affidavit of Payment of Debts and Claims and AIA Document G-706A, Contractors Affidavit of Release of Liens), (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the insurance will be renewable to cover the period required by the Contract Documents, (4) consent of the Contractor’s surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers’ warranties or specific Subcontractor warranties, (6) all documents and items

required to be submitted by Contractor in accordance with the Contract Documents which shall include those items set forth in Section 3.11 which have not previously been delivered to Owner, (7) unconditional lien waivers and releases from Contractor and all Subcontractors and suppliers; and (8) if required by the Owner, other data establishing payment or satisfaction of obligations to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties and guarantees required by the Contract Documents;
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment; or
- .5 claims, damages, losses or expenses for indemnification.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor's safety program shall be written and a copy maintained at the Project site for inspection, upon request. Neither the Owner nor the Architect accept any responsibility or liability for the safety of the Contractor's employees or for enforcing the Contractor's safety program. Additionally, Contractor shall comply with the Owner's rules, regulations, and policies including, but not limited to, the Owner's safety, health, and infection control policies and programs.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor;
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, benchmarks, monuments, other reference points, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- .4 construction or operations by the Owner and Separate Contractors.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall give Owner and Architect reasonable advance notice thereof and shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail and names of witnesses to enable the other party to investigate the matter.

§ 10.2.9 If a Separate Contractor incurs damages resulting from the Contractor's performance of its Work, and the Contractor fails to remedy the damage or to reimburse the Separate Contractor for its damages, then the Owner reserves the right to pay the Separate Contractor suffering the damage and deduct such amounts from the amount due the Contractor.

§ 10.2.10 The Contractor acknowledges that the safety of the public and of the employees, invitees and guests of the Owner is of the utmost importance. While the Contractor is at the Project site, the Contractor will take no action that would jeopardize the safety of the public and of the Owner's employees, invitees or guests and, without the Owner's written approval, shall take no action that would interfere with the Owner's activities. The Owner reserves the right to require the Contractor and its employees to wear identification (subject to applicable safety standards), to stay in designated Work areas at all times while on the Owner's property and to record on a log a person's presence immediately upon entering the Owner's property. The Owner shall have the right to effect the immediate removal of a person from the Project site for failure to wear identification, for being outside a designated work area, for fraternizing with or engaging in any inappropriate behavior directed toward or in the vicinity of employees, invitees or guests of the Owner or for other good cause shown.

§ 10.2.11 The Contractor shall be enrolled in and remain in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Safety Program or a comparable program approved by the Bureau that meets the requirements of Ohio Revised Code 153.03. Contractor shall comply with and shall require its Subcontractors to comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements under Revised Code 153.03(E), and Contractor shall include language in its subcontractual agreements mandating that each Subcontractor require Sub-subcontractors to similarly comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance that is concealed or not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain or cause to be obtained the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (i) the Owner causes remedial work to be performed that results in the absence of the materials or substances or renders the material or substance harmless as evidenced by a written report which is prepared by an environmental consultant retained by Owner, or (ii) the Owner and the Contractor, by written agreement, decide to resume performance of the Work, or (iii) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum equitably adjusted based on the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 [Intentionally Deleted].

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances. Hazardous materials or substances to be used at the Project site by Contractor shall be identified by a Safety Data Sheet. The Contractor shall assemble all of its applicable Safety Data Sheet in a notebook and submit it to the Architect for its information prior to a hazardous material or substance being brought to the Project site. The Contractor shall maintain all Safety Data Sheet notebooks at the Project site for the duration of the Project.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 [Intentionally Deleted].

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies rated A- or higher by Best Insurance Reports and lawfully authorized to do business in the State of Ohio such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

§ 11.1.2 The insurance required by Section 11.1.1 shall include and shall be written for not less than the following, or as required by law, whichever coverage is greater.

1. Workers' Compensation: Statutory
2. Employer's Liability: (1) an each-accident limit of not less than \$1,000,000, (2) a disease each-employee limit of not less than \$1,000,000, and (3) a disease policy limit of not less than \$1,000,000;
3. Commercial General Liability ("CGL"): (1) an each-occurrence limit of not less than \$2,000,000, (2) a general-aggregate limit of not less than \$2,000,000, and (3) a products and completed-operations aggregate limit of not less than \$2,000,000. The CGL insurance shall provide at least equivalent coverage for liability arising from premises, operations, independent contractors, products/completed-operations (shall not exclude coverage to the additional insured(s) for bodily injury or property damage), personal and advertising injury, and liability assumed under an insured contract. The CGL insurance shall not exclude coverage for damage to electronic data. The CGL policy shall be endorsed providing equivalent coverage to provide that the general aggregate limit applies separately to each of the insured's projects;
4. Automobile Liability: covering all owned, non-owned, and hired vehicles used in connection with the Work: Bodily injury (including death and emotional distress) and property damage with a combined single limit of \$1,000,000 each accident;

- .5 Umbrella/Excess Liability: Such policies shall be supplemented by an umbrella policy of additional protection in the amount of \$5,000,000 aggregate;
- .6 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall maintain Professional Liability Insurance covering performance of the professional services, with policy limits of not less than \$1,000,000 per claim and \$1,000,000 in the aggregate; and
- .7 Pollution Liability: If the Work includes environmentally sensitive, hazardous types of activities (such as demolition, exterior insulation finish systems, asbestos abatement, storage-tank removal, or similar activities), or involves hazardous materials, the Contractor shall maintain a contractor's pollution liability policy with (1) a per-claim limit of not less than \$1,000,000 and (2) an annual-aggregate limit of not less than \$1,000,000, covering the acts, errors and/or omissions of the Contractor for damages (including from mold) sustained by the Owner by reason of the Contractor's performance of the Work. The policy shall have an effective date, which is on or before the date of commencement of the Work.

The Contractor shall maintain required coverages without interruption from the date of commencement of the Work and for not less than five years following Substantial Completion. The Contractor shall pay all deductibles, self-insured retentions, or both contained in the policies of insurance. The Contractor shall continue to provide evidence of coverage to the Owner on an annual basis during the aforementioned period.

§ 11.1.3 The Contractor shall submit to the Architect and the Owner a copy of certificates of insurance prior to commencement of the Work. Certificates shall include each and every type of coverage specified. Such certificates shall name the Owner and Architect as additional insureds and shall contain a statement that the Owner will be notified 30 days prior to the cancellation of any insurance policy evidenced by this certificate. The additional insureds requirements of this Section shall include completed and ongoing operations and Contractor shall provide additional insured endorsements. An additional certificate evidencing continuation of liability coverage, including coverage for completed and ongoing operations, shall be submitted with the final Application for Payment as required by Section 9.10.2. When any required insurance, due to the attainment of a normal expiration date or renewal date, shall expire, the Contractor shall supply the Owner with Certificates of Insurance and amendatory riders or endorsements that clearly evidence the continuation of all coverage in the same manner, limits of protection, and scope of coverage as was provided by the previous policy if and to the extent required to meet the insurance requirements of this Section 11.1. All renewal and replacement policies shall comply with the requirements of this Section 11.1. A failure of the Owner to request a certificate or other evidence of compliance with the insurance requirements or a failure of the Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of the Contractor's obligation to maintain the required insurance.

§ 11.1.4 The Contractor shall cause all Subcontractors to provide Workers' Compensation, Comprehensive General Liability, and Automobile Liability Insurance with commercially reasonable limits and certificates of insurance related thereto. Such certificates shall name the Owner and Architect as additional insureds.

§ 11.1.5 The Contractor shall not commence Work under the Contract until the Contractor has obtained and provided proof of all insurance required under this heading.

§ 11.1.6 All liability policies required in this Section 11.1 shall be primary and non-contributory with respect to any other insurance or self-insurance programs that cover the Owner or an additional insured.

§ 11.1.7 If Contractor fails to purchase and/or maintain any insurance required under Section 11.1, the Owner may, but shall not be obligated to, upon seven (7) days written notice to Contractor, purchase such insurance on behalf of the Contractor and shall be entitled to be reimbursed by the Contractor upon demand.

§ 11.1.8 Performance Bond and Payment Bond

§ 11.1.8.1 The Contractor shall furnish bonds as required in the Agreement between Owner and Contractor.

§ 11.1.8.2 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of, (i) notice of changes in the Work; (ii) request for reduction or release of retainage; (iii) request for final payment; and (iv) any other item required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform the surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interests, privileges and benefits under and pursuant to any bond issued in connection with the Work. The Contractor shall be notified by the Owner, in writing, of any communications with the surety.

§ 11.1.8.3 If at any time any surety providing bonds for the Project (1) is adjudged bankrupt or has made a general assignment for the benefit of its creditors; (2) has liquidated all assets or has made a general assignment for the benefit of its creditors; (3) is placed in receivership; (4) otherwise petitions a state or federal court for protection from its creditors; or (5) allows its license to do business in Ohio to lapse or to be revoked, then the Contractor shall immediately, but no later than 21 days of any such action listed above, provide the Owner with new bonds in the form and amount required under the Contract.

§ 11.2 Property Insurance

§ 11.2.1 Unless otherwise provided in the Agreement, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property required by this Section to be covered, whichever is later.

§ 11.2.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, tornado, flood, windstorm, explosion, breakage of glass, falsework, testing and startup, temporary buildings and structures, materials used in the construction process, hot and cold testing, and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. Coverage shall include a provision to pay the reasonable extra costs of acceleration and expediting temporary and permanent repairs to, or permanent replacement of, damaged property (including overtime wages directly incurred to accelerate restoration or repair of the damaged property, and the extra costs that are directly incurred to rapidly transport materials and supplies necessary to the repair or replacement); soft costs coverage to the extent commercially available to comparable insureds, including the reasonable direct costs incurred by Architect and/or Contractor as a result of a property damage loss covered by the policy; and provisions for mechanical or electrical breakdown, or boiler system testing. Coverage shall be primary to all other applicable insurance. Notwithstanding any of the foregoing, the insurance shall include coverage only for those costs incurred as a direct result of direct physical damage to property otherwise covered by the policy; business income, business interruption, home office overhead, and lost productivity costs of Contractor or any subcontractor at any tier shall not be covered.

§ 11.2.1.2 If the property insurance requires minimum deductibles, the Contractor shall pay costs not covered by the insurance because of such deductibles.

§ 11.2.1.3 This property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

§ 11.2.1.4 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.2.1.5 The insurance required by this Section 11.2 is not intended to cover machinery, tools, apparatus, scaffolding, hoists, forms, staging, shoring or other equipment owned or rented by the Contractor which are utilized in the performance of the Work but not incorporated into the permanent improvements. The Contractor shall, at the Contractor's own expense, provide insurance coverage for owned or rented machinery, tools or equipment.

§ 11.3 WAIVERS OF SUBROGATION

The Contractor waives all rights against the Owner and their agents and employees for damages to the extent covered by any insurance, except rights to the proceeds of that insurance. All policies shall accomplish the waiver of subrogation by endorsement or otherwise. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of the Owner and Contractor; all Sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 11.4 A loss insured under the Owner's property insurance shall be adjusted by the Owner in good faith and made payable to the Owner for the insureds, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner in good faith shall have power to adjust and settle a loss with insurers.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, for a period of one year after the date of Substantial Completion of the Work or designated portion thereof, the Contractor shall correct any of the Work that is found defective in workmanship, materials or not in accordance with the requirements of the Contract Documents. If defective or nonconforming Work becomes apparent within the one-year period, the Owner shall notify the Contractor in writing. Within fourteen (14) days of receipt of said notice, the Contractor shall visit the Project in the company of one or more representatives of the Owner to determine the extent of the defective or nonconforming Work. If the defective or nonconforming Work is considered by the Owner to be an emergency, the Owner may require the Contractor to visit the Project within one (1) calendar day or less of receipt of said notice. The Contractor shall promptly repair or replace the defective or nonconforming Work, including all adjacent Work damaged as a result of such defective or nonconforming Work. The Contractor shall be fully responsible for the cost of temporary materials, facilities, utilities or equipment required during the repair or replacement of the defective or nonconforming Work. If the Contractor fails to correct defective or nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 With respect to items of Work that are corrected, completed or first performed after Substantial Completion but prior to final completion of the Project, including completed punch list items, the one-year period with respect to these items shall commence upon correction or completion of the item.

§ 12.2.2.3 One month prior to the end of the one (1) year period, the Contractor shall attend a walk-through of the Project scheduled by the Architect.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents

may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The acceptance of nonconforming Work by the Owner shall be by written Change Order.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the laws of the State of Ohio. Any suit, which may be brought to enforce any provision of this Agreement or any remedy with respect hereto, shall be brought in the Common Pleas Court of the County where the Project is located which shall have exclusive jurisdiction to the exclusion of all other jurisdictions. The applicable statutes of limitations and repose under Ohio law shall apply to all causes of action between the Owner and Contractor.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder are cumulative and shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall be present at and shall give the Architect timely notice of when and where tests and inspections are to be made, including intermediate and final inspections, so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense. The Contractor also agrees the cost of testing services required for the

convenience of the Contractor in the scheduling and performance of the Work, and the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 Any reports or documents resulting from tests, inspections and approvals required under this Section 13.4 shall be submitted to the Owner and Architect.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate set forth in the Agreement.

§ 13.6 Training Sessions

The Contractor will participate in training sessions for the Owner in cooperation with the Architect, Owner, Owner's personnel and consultants and the Contractor will participate in tests in cooperation with the Architect, Owner, Owner's personnel and consultants to the extent applicable to the Contractor's Work.

§ 13.7 Equal Opportunity

§ 13.7.1 The Contractor shall comply with applicable law regarding equal employment opportunity, including Ohio Revised Code Section 153.59. The Contractor shall cooperate fully with the State's Equal Opportunity Coordinator, with any other official or agency of the state or federal government that seeks to eliminate unlawful employment discrimination, and with all other state and federal efforts to assure equal employment practices under the Contract. The Contractor agrees to the following:

§ 13.7.1.1. That, in the hiring of employees for the performance of Work under the Contract or any Subcontract, Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not discriminate against any citizen of the state who are qualified and available to perform the services to which the employment relates by reason of race, color, religion, sex, age, disability, military status as defined in section 4112.01 of the Revised Code, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics; and

§ 13.7.1.2. That Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not in any manner discriminate against, intimidate, or retaliate against any employee hired for the performance of services under the Contract on account of race, color, religion, sex, age, disability, military status, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics.

§ 13.7.2. In the event the Contractor fails to comply with these nondiscrimination clauses, the Contractor shall be subject to the forfeiture requirements of Ohio Revised Code Section 153.60.

§ 13.7.3 Hiring Under State Public Improvement Contracts. Any provision of a hiring hall contract or agreement which obligates the Contractor to hire, if available, only employees referred to the Contractor by a labor organization shall be void as against public policy and unenforceable with respect to employment under any public improvement contract unless at the date of execution of the hiring hall contract or agreement, or within thirty (30) days thereafter, the labor organization has procedures in effect for referring qualified employees for hire without regard to race, color, religion, national origin, military status as defined in Ohio Revised Code Section 4112.01, or ancestry and unless the labor organization includes in its apprentice and journeyperson's membership, or otherwise has available for job referral without discrimination, qualified employees, both whites and non-whites (including African-Americans).

§ 13.8 The table of contents, titles, headings, running headlines and marginal notes contained in the Contract are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or describe or limit the interpretation of the provisions to which they refer.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 75 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or
- .3 Because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents.
- .4 [Intentionally Deleted].

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon thirty days' notice to the Owner and Architect, terminate the Contract provided that the reason for the termination is not cured within the thirty-day period and recover from the Owner payment for Work executed as of the date of termination, but not overhead and profit on Work not executed and not to exceed the Contract Sum (however, if such reason for termination cannot reasonably be cured within the thirty-day period, then Contractor shall not terminate the Contract so long as Owner commences to cure the reason for termination within such thirty-day period and diligently pursues such cure).

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or Suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is in material breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, and provided that the reason for the termination is not cured within the seven-day period, terminate employment of the Contractor and/or exercise the following non-exclusive remedies which will be cumulative:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a general accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, then Contractor shall be paid for Work that it satisfactorily performed prior to the date of termination but not to exceed such excess unpaid balance. If such costs and damages exceed the unpaid balance, the Contractor and the Contractor's surety shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 Should the Owner terminate this Agreement for cause under this Section 14.2, but that cause be subsequently found insufficient to support termination, the termination shall be deemed one of convenience under Section 14.4.

§ 14.2.6 If the Contract is terminated for cause, the Contractor's surety may perform the Contract. If the Contractor's surety does not commence performance of the Contract within ten (10) days of the date of Contract termination, the Owner may complete the Work by means the Owner determines appropriate. If the Contractor's surety performs the Work, the provisions of the Contract Documents govern the surety's performance, with the surety in place of the Contractor in all provisions including, but not limited to, provisions for payment for the Work, and provisions of the right of the Owner to complete the Work.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be equitably adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall with respect to the Work that is terminated:

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and
- .4 deliver to Owner all Project-related documents and work product of Contractor and its Subcontractors related to the Work.

§ 14.4.3 If the Contract is terminated in accordance with this Section 14.4, the Owner will pay the Contractor, i) for Work performed under the Contract up to the date the notice of termination is received by the Contractor at the rates for Work performed under the Contract, including overhead and profit up to the date of termination and reasonable expenses directly attributable to the termination, but not for overhead or lost profit on unperformed Work, ii) for Work performed at the direction of the Owner on and after the date on which the notice of termination is received by the Contractor, as determined by the procedures applicable to Construction Change Directives, and iii) for Work necessary to protect and preserve the Work, as determined by the procedures applicable to Construction Change Directives.

§ 14.4.4 The termination of the Contract under this Section 14.4 shall be without prejudice to rights or remedies which exist at the time of termination.

§ 14.5 Contractor Insolvency

§ 14.5.1 The Owner may immediately terminate the Agreement for cause if:

§ 14.5.1.1 the Contractor commences a voluntary case under Title 11 of the United States Code or the corresponding provisions of any successor laws; or

§ 14.5.1.2 any legal entity commences an involuntary case against the Contractor under Title 11 of the United States Code or the corresponding provisions of any successor laws and (1) the case is not dismissed within 60 days after its commencement; or (2) the court before which the case is pending issues an order for relief or similar order approving the case; or

§ 14.5.1.3 a court of competent jurisdiction appoints, or the Contractor makes an assignment of all or substantially all of its assets to, a receiver, trustee, liquidator, or other similar custodian for the Contractor or all or substantially all of the Contractor's assets; or

§ 14.5.1.4 any attachment, execution, or other judicial seizure is levied against all or substantially all of the Contractor's assets; or

§ 14.5.1.5 the Contractor takes any action toward the dissolution or winding up of its business; or

§ 14.5.1.6 the Contractor fails generally to pay its debts as they become due (unless those debts are subject to a good-faith dispute as to liability or amount) or it acknowledges in writing that it is unable to do so.

§ 14.5.2 If the Contractor files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it, the Contractor, the Contractor as the debtor-in-possession, or the trustee of the Contractor's bankruptcy estate shall file a motion to assume or reject the Contract under Bankruptcy Code §365, 11 U.S.C. §365, within 20 days after the filing of the voluntary petition or involuntary petition and shall diligently prosecute that motion to conclusion so as to obtain an order granting or denying that motion within 45 days after the filing of the voluntary or involuntary petition.

§ 14.5.3 If the Owner intends to exercise its termination rights under this Section 14.5, the Owner shall notify the Contractor in writing of the Owner's termination of the Contract and the cause(s) for that termination.

§ 14.5.4 The Contractor agrees to the granting of relief from the automatic stay of the Bankruptcy Code, 11 U.S.C. §362(a), to permit the Owner to terminate the Contract for cause in such instance and issue and serve all notices necessary to terminate the Contract or arising out of the termination of the Contract and to take any and all other action necessary to terminate the Contract.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by the Contractor seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question asserted by the Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the Contractor. The Contract, including but not limited to this Article 15 does not require the Owner to make a claim, dispute, demand or assertion against the Contractor for the payment of money, a change in the Contract Time or other relief or in order for the Owner to exercise its rights and remedies against the Contractor, including but not limited to the remedying of a Contractor default, the imposition of liquidated damages and binding dispute resolution in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Causes of Action

The Owner and Contractor shall commence all causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable statute of limitation and repose. The Owner and Contractor waive all causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Time Limit on Claims. Claims by Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the Owner and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by the Contractor under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after Contractor first recognizes the condition giving rise to the Claim, whichever is later. Failure to submit proper and timely notice in accordance with this Section shall constitute a waiver and abandonment of the Claim by Contractor.

§ 15.1.3.2 Contractor Claims and claims by the Owner, where the condition giving rise is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions, as recorded at the government-controlled weather-recording facility nearest to the Project site, were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.6.3 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents, nor shall this Section 15.1.7 apply to a party's gross negligence, willful misconduct or indemnity obligations.

§ 15.1.8 Substantiation and Certification of Claim

§ 15.1.8.1 Substantiation of Claim. Within fifteen (15) days after the initiation of a Claim by Contractor, the Contractor shall substantiate its Claim by providing the following minimum written information to Owner: (i) a narrative of the circumstances which gave rise to the Claim, including, without limitation, the start date of the event or events and the actual, or anticipated, finish date; (ii) detailed identification of the Work affected by the event giving rise to the Claim; (iii) copies of the Contractor's daily log for each day of impact; (iv) copies of relevant correspondence and other information regarding or supporting Contractor's entitlement; (v) copies of the Contractor's most recent income statement, including segregated general and administrative expenses for the most recent reporting period, and for the period of the Contract, if available, and similar information for any Subcontractor claim included; (vi) if the Claim is for additional cost, the amount of the Claim, the information specified in Section 15.1.5 herein and a statement that the increase requested is the entire increase in the Contract Sum associated with the Claim; (vii) if the Claim is for additional Contract Time, the information specified in Section 15.1.6 herein. Contractor shall also provide such additional information as requested by Owner or Architect to substantiate the Contractor's Claim within ten (10) days following request. The Contractor shall provide the required information in the formats requested, which include both paper and electronic copies. The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

§ 15.1.8.2 Certification of Claim Within fifteen (15) days after the initiation of the Claim by Contractor, the Contractor shall certify its Claim by providing the notarized certification, signed and dated by the Contractor, as follows: “The undersigned Contractor certifies that the Claim is made in good faith; that the supporting data is accurate and complete to the best of the Contractor’s knowledge and belief; that the amount requested is a fair, reasonable, and necessary adjustment for which the Contractor believes the Owner is liable; and that the undersigned is duly authorized to certify the Claim on behalf of the Contractor.” The Contractor’s failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

§ 15.2 Initial Decision

§ 15.2.1 Contractor Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3 and 10.4, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, Contractor may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and take one or more of the following actions: (1) request additional supporting data from the Contractor or a response with supporting data from the Owner, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker’s sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner’s expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor’s default, the Owner may, but is not obligated to, notify the surety and request the surety’s assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic’s lien, either party may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Disputes, or other matters in controversy between the parties, including a Claim, arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their disputes or other matters in controversy by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written

consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.



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Changes to original AIA text

PAGE 1

Wyandot Elementary School Plumbing Improvements

Board of Education of the Dublin City School District

6371A Shier Rings Road

Dublin, Ohio, 43016

Advanced Engineering Consultants»

1405 Dublin Road

Columbus, Ohio 43215

1— GENERAL PROVISIONS

2— OWNER

3— CONTRACTOR

4— ARCHITECT

5— SUBCONTRACTORS

6— CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

7— CHANGES IN THE WORK

8— TIME

9— PAYMENTS AND COMPLETION

10— PROTECTION OF PERSONS AND PROPERTY

11— INSURANCE AND BONDS

12— UNCOVERING AND CORRECTION OF WORK

13— MISCELLANEOUS PROVISIONS

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14— TERMINATION OR SUSPENSION OF THE CONTRACT

15— CLAIMS AND DISPUTES

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The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (these General Conditions, the Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. ~~The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.~~

§ 1.2.1 The intent of the Contract Documents is to include all items necessary and reasonably inferable for the proper execution and completion of the Work by the Contractor, whether or not expressly shown or described. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.4 The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor exercising the care, skill, and diligence required of the Contractor by the Contract Documents.

Terms capitalized in these General Conditions include those that are (1) specifically defined, or (2) the titles of numbered articles, or (3) ~~the titles of other documents published by the American Institute of Architects.~~

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter. All personal pronouns used in this Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders; and the singular shall include the plural and vice versa. Titles of articles, sections, and subsections are for convenience only and neither limit nor amplify the provisions of the Contract.

§ 1.5.1 ~~The~~ Unless otherwise indicated in the agreement between the Owner and the Architect, the Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or

claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to ~~Sections~~Section 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.5.3 The Owner alone owns all Project-related documents, including those in electronic form, prepared by the Contractor and Subcontractors, and every right, title, and interest therein from the moment of creation. The Contractor must execute and deliver and cause its employees and agents and all Subcontractors to execute and deliver to the Owner any transfers, assignments, documents, or other instruments (if any) necessary to vest in the Owner complete right, title, interest in and ownership of the Contractor's documents. The Contractor may retain copies, including reproducible copies, of the Contractor's documents for information, reference, and performance of the Work. The submission or distribution of the Contractor's documents to meet official regulatory requirements or for similar purposes in connection with the Project is not a waiver of the Owner's reserved rights in the Contractor's documents. Any unauthorized use of the Contractor's documents shall be at the sole risk of the entity making the unauthorized use.

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§ 1.6.2 Notice of Claims as provided in Section 15.1.32 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

~~The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.~~

§ 1.8 Building Information Models Use and Reliance

~~Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.~~ Owner and Contractor acknowledge and reasonably expect that they will provide or cause to be provided electronic files to each other, including, but not limited to, Revit, Computer-Aided Design ("CAD") or Building Information Modeling ("BIM") files (collectively "Electronic Files"), and that they will receive Electronic Files from and provide Electronic Files to the Architect, to facilitate the design and construction of the Project consistent with current practices and customs in the construction industry. The Owner and Contractor acknowledge that the use of Electronic Files involves risks not generally associated with the use of paper documents. Those risks include, for example and without limitation, alteration (inadvertent or intentional) and deterioration, both of which may not be readily apparent through casual observation. The Owner and Contractor do not warrant to each other that any Electronic File they provide to each other or that they receive from or provide to the Architect (1) was not altered through transmission; (2) is compatible with the recipient's computer system or software; (3) will not be altered through degradation of the recipient's storage media; or (4) is suitable for conversion/translation to and subsequent use in a system or format other than the Electronic File's original system or format. Before relying on any Electronic File it receives, the recipient is responsible for verifying that the Electronic File was not altered through transmission, degradation of the recipient's own storage media, or other causes. If the recipient of an Electronic File converts/translated the Electronic File from its original system or format to an alternate system or format, the recipient assumes the risk that the conversion/translation created errors in the converted/translated file. Owner and Contractor shall each maintain and operate its own computer systems and storage media in a commercially reasonable way and take reasonable steps to prevent errors in and deterioration of the Electronic Files it creates, provides, and receives. In the event of a discrepancy between information contained in a paper version of a document and the Electronic File of that document, the paper version will govern. This Section does not relieve the Contractor of its responsibility for the preparation, completeness, or accuracy of the Contractor's documents. The parties shall also follow any other protocols governing the development, transmission, exchange and use of Instruments of Service, Electronic Files or any other information or documentation in digital form as may be agreed upon in writing by the Owner, Contractor and Architect.

~~§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization, provided that the representative shall have only such authority as is expressly authorized by the Owner's governing board. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.~~

~~§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.~~

~~§ 2.2 Evidence of the Owner's Financial Arrangements~~

~~§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.~~

~~§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.~~

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~~§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.~~

~~§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information a notice of commencement as may be required by Ohio Revised Code Chapter 1311. The Contractor shall provide a copy of any notice of commencement to its Subcontractor and any known Sub-subcontractors. The Contractor will immediately deliver to the Architect and Owner copies of notices of furnishing that Contractor receives.~~

~~§ 2.3.2 The Owner shall retain an architect a professional design firm lawfully licensed to practice architecture or engineering, or an entity lawfully practicing architecture or engineering, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.~~

~~§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect~~

~~§ 2.3.4 The Owner shall, if necessary for the execution of the Work, furnish surveys or other information describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.~~

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and reasonably necessary and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. The rights of the Owner under this Section are in addition to Owner's rights and remedies contained elsewhere in the Contract Documents.

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to ~~commence and continue correction of~~ correct such default or neglect ~~with diligence and promptness~~, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and if such default or neglect results in an emergency and/or a threat to the safety of persons or property, the Contractor shall immediately commence and continue without interruption using best efforts to correct such default or neglect upon receipt of written or oral notice thereof or otherwise becoming aware, and if Contractor fails to do so, then Owner may correct such default or neglect. The Owner or Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15. The rights of Owner under this Section are in addition to the rights of Owner as set forth in Articles 12 and 14 herein.

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§ 3.1.4 The Contractor shall attend preconstruction meetings with representatives of the Architect and Owner. The Contractor shall have any of its Subcontractors and suppliers at the meeting as necessary or as requested by the Architect. The preconstruction meetings will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the Project. The date, time, and place of the meetings will be designated by the Owner.

§ 3.1.5 If the Project is designed and constructed with a Sustainable Objective identified in the Agreement for the Project, the Contractor shall perform the Work for which the Contractor is responsible in furtherance of the Sustainable Objective and shall provide submittals certifying achievement of the Sustainable Objective criteria for verification by a third party, and the submittals shall be provided in accordance with any deadlines set forth in the schedule and Contract Documents. In the absence of schedules or deadlines, the Contractor will submit the documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or Separate Contractors. The Contractor shall include with any requests for substitution any potential effect the substitution may have on the Sustainable Objective. The Contractor grants to the Architect and Owner the right to submit the Contractor's submittals to the rating system as required in order to achieve or maintain the Sustainable Objective.

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents. By executing the Agreement, the Contractor certifies that it has evaluated and satisfied itself as to the conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, including but not limited to utilities, access restraints to the Project site and access restraints to neighboring facilities, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools, and equipment, and (v) other similar issues. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the Contractor or any Subcontractor to have complied with the requirements of this Section 3.2.1.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. The Contractor shall satisfy itself as to the accuracy of all grades, elevations, dimensions, and locations. In all cases of interconnection of its Work with existing or other work, Contractor shall verify at the site all dimensions relating to such existing or other work. Any errors due to the Contractor's failure to so verify all such grades, elevations, dimensions, or locations shall be promptly rectified by the Contractor without any additional cost to the Owner. These obligations are for the purpose of facilitating coordination and construction by the Contractor, for determining that the Work is constructible, for determining if the Work of the Contractor is coordinated in the Contract Documents with the Work of Separate Contractors under a separate contract with the Owner, and for verifying that field conditions, including the Work of other Contractors, are consistent with the information in the Contract Documents and ready for Work and are not for the purpose of discovering errors, omissions, or inconsistencies in the design information contained in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require, and proceeding without reporting such nonconformity shall make the Contractor responsible for any costs and expenses incurred by the Contractor related to the claimed deficiencies.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15, and the time limit for initiating a Claim begins to run on the date of the Architect's issuance. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents and/or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.2.6 If the Architect does not specify a form for Contractor to submit a request for information, then Contractor shall utilize the AIA Document G-716.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors, including Sub-subcontractors of any tier, and Contractor shall be responsible for ensuring the performance of the Work regardless of whether the work is performed by the Contractor, a Subcontractor or Sub-subcontractors of any tier. The Contractor shall be responsible for scheduling and coordinating the work of its Subcontractors and suppliers. This section shall apply with equal force and effect regardless of whether any Subcontractors are selected by the Contractor or assigned by the Owner.

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, storage and

other facilities and services necessary for proper execution and completion of the Work, including but not limited to field offices, toilets, other trailers, or buildings, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The Contractor shall use best efforts to conserve any utilities furnished by Owner.

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§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. The Contractor shall provide all data, information, regulations and certifications required by Architect and Owner in evaluating the proposed substitution. The Owner shall be entitled to reimbursement from the Contractor for amounts paid for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions.

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents, will be of good workmanship and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements ~~may~~ shall be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, improper alterations to the Work not except when executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. Owner will provide to Contractor, upon request, a completed State of Ohio Sales and Use Tax Construction Contract Exemption Certificate.

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for all other permits, fees, licenses, and inspections by utilities or government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.3 If the Contractor performs Work ~~knowing it to be~~ contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party Contractor disputes the Architect's determination or recommendation, that party the Contractor may submit a Claim as provided in Article 15, and the time limit for initiating a Claim as set forth in Section 15.1.2 herein related to subsurface, concealed or unknown conditions begins to run on the date the Architect issues its determination or recommendation.

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- .1— allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

- .2— Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum, but not in the allowances, and shall not be chargeable against the allowance; and
- .3— whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2. The Contractor shall obtain a Change Order before incurring any costs in excess of an allowance.

§ 3.9.2 ~~The~~If not already approved in advance by the Owner, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner or Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed. The Owner shall have the right to require the Contractor to remove a superintendent from the Project whose performance is not satisfactory, and to replace the superintendent with a superintendent who is satisfactory to the Owner.

§ 3.10.1 ~~The~~If not already provided to the Owner in accordance with the Agreement, the Contractor, promptly after being awarded the Contract ~~execution of the Agreement or Guaranteed Maximum Price Amendment~~, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the ~~datedates~~ dates of Substantial Completion and final completion; (2) an apportionment of the Work by construction activity; ~~and (3) identifying the critical path of the Work;~~ (4) a graphic representation of activities and events that will occur during performance of the Work; (5) identifying the crew size and total resource hours for each activity in the schedule; (6) identifying disruptions and shutdowns; and (7) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. If the schedule is not accepted by the Owner and Architect, the Contractor shall promptly revise the schedule in accordance with the recommendations of the Owner and Architect and resubmit to Owner and Architect for acceptance. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

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§ 3.10.1.1 In certain occupied buildings, tasks might be of such a nature that noise and vibration cannot be tolerated. In such spaces, Work shall be scheduled for other than normal working hours. The Contractor is cautioned that weekend or overtime work, if required to avoid such noise and vibration, shall be performed at no additional cost. Permission to work other than standard hours shall be received from the Owner prior to the occurrence. Weekend and overtime Work shall be reflected in the construction schedule.

§ 3.10.1.2 In the event that critical path activities, schedule milestone completion dates, Substantial Completion or final completion dates will not be met, Contractor shall devise an affirmative time recovery plan acceptable to the Owner and Architect to avoid or minimize any delay. Such a plan may include, without limitation, increasing the Contractor's workforce in such quantities as will eliminate the backlog of Work, increasing the number of working hours per shift, shifts per workday, workdays per week, the amount of construction equipment, or any combination thereof, rescheduling of activities to achieve maximum practical concurrency of Work efforts and, if appropriate, time extensions.

§ 3.10.1.3 Unless otherwise provided in the Agreement, or unless different intervals are agreed to by the Owner, the Contractor shall update the construction schedule bi-weekly consistent with time limits established under the Contract Document and shall obtain the Owner's and Architect's approval. The updated construction schedule shall show all changes to the previous schedule. The updated construction schedule shall be signed by the Contractor and shall serve as an affirmation that the Contractor agrees to and can meet the requirements of the updated construction schedule.

§ 3.10.1.4 The Contractor shall participate with Separate Contractors and the Owner in reviewing their construction schedules and the Contractor shall coordinate its Work with the activities of the Owner's own forces and of Separate Contractors. The Contractor shall make any revisions to the construction schedule in order to coordinate its Work as required by this Section.

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals, accurate, current and reproducible as-built drawings (showing Work as actually performed, variations from the original Contract Documents and the location of any concealed and/or buried items, utilities, mechanical or electrical systems and components), and accurate records of any changes made to the Specifications, noting particularly any variation from manufacturer's installation instructions and recommendations. Contractor shall also maintain at the site: a daily log in which it has recorded Project related information, including but not limited to, weather, number of workers on site, identification of equipment, Work accomplished, problems encountered and other similar relevant Project data; manufacturers' installation, operating and/or maintenance instructions or requirements, certificates and warranties; any special guarantees or warranties required by the Contract Documents; all the Contractor's communications, including but not limited to letters, memoranda, e-mails, invoices and bills of lading, arising out of or related to the Project with the Architect, Owner, and/or Subcontractors, suppliers and/or employees; assignment of all guarantees or warranties from Subcontractors, vendors, suppliers or manufacturers; a list of the names, addresses and telephone numbers of all Subcontractors and any other persons providing guarantees and warranties; and quality control procedures and documents related thereto. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

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§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. In the event of conflicts between submittals and the Contract Documents, the Contract Documents take precedence and govern the Work. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. The Contractor shall pay all costs incurred by the Architect and Owner for attendant delay, interference, hindrance or disruption of the Project due to (i) review of submittals out of sequence from the agreed-upon schedule provided that the Architect has demonstrated that it has been financially impacted and/or (ii) due to excessive re-submittals without fault of the Architect. Unless otherwise provided in the Contract Documents, re-submittals in excess of one (1) without fault of the Architect or Owner shall be deemed excessive. If the Shop Drawings or other submittals show variations from the requirements of the Contract Documents, the Contractor shall specify such variations in the Contractor's letter of submittal to the Architect accompanying the submittal. Variations must be approved in writing.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof. The review and approval of a separate item shall not indicate approval of the assembly in which the item functions.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to reasonably rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

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The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall use commercially reasonable efforts to minimize any interference with the occupancy or beneficial use of (i) any areas and buildings adjacent to the site of the Work and (ii) the Project site and any buildings located thereon in the event of partial occupancy. Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the Owner.

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials, dirt, dust and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project except that the Contractor shall give to the Owner any surplus materials that are required by the Contract Documents, but not incorporated into the Project, for future maintenance or repairs. The Contractor shall be responsible for compliance with all requirements regarding notification and disposal of construction demolition debris.

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§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) and/or a violation of applicable law, but only to the extent caused by the negligent acts or omissions or willful misconduct of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by any insurance policy provided or required in connection with the Project and/or a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts. As between the Owner and Contractor, Contractor waives its immunities as may be applicable under law for purposes of confirming the indemnity obligations of this Agreement. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of all parties, including the Owner and Contractor; all sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 3.19 Underground Utility Facilities

§ 3.19.1 The Contractor shall comply with ORC Sections 3781.25 through 3781.32. In addition, before starting excavation or trenching, the Contractor shall determine the location of any underground utilities and notify any public authority or utility having jurisdiction over the Project and secure any required approval. The Contractor shall alert immediately the occupants of any premises near the Work and the Architect as to any emergency that it may create or discover. The Contractor shall notify the operator of the underground facility and the Architect of any break or leak in the utility lines or any dent, gouge, groove, or other damage to such lines made or discovered in the course of excavation.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, ~~Contractor,~~ and Architect. Consent shall not be unreasonably withheld.

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment and for such additional periods thereafter as the Owner and Architect may agree. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents. The Contractor shall reimburse the Owner for amounts paid to the Architect for site visits that are in addition to what is required of the Architect as described in this Section and that are made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

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The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project and the Contractor shall do likewise with respect to direct communications with the Owner. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work, including those tests and inspections as provided in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under the Contract, including but not limited to Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an

assembly of which the item is a component.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. ~~The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.~~ duties, responsibilities and limitations of authority of the Project representatives shall be as set forth in the agreement between the Owner and Architect.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good-faith accordance with its standard of care.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be ~~final if consistent with the intent expressed in the Contract Documents~~ subject to Owner's prior approval.

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§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work ~~at the site, including material suppliers.~~ The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work ~~at the site, including material suppliers.~~ The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor of any tier or an authorized representative of the Sub-subcontractor.

§ 5.2.1 ~~Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.~~

§ 5.2.2 ~~The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.~~

§ 5.2.3 ~~If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.~~

§ 5.2.4 ~~The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.~~

Retention of Subcontractors shall be as set forth in the Agreement.

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall provide that the Owner is a third party beneficiary of the subcontract agreement and shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with

Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors. Contractor shall promptly provide to Owner copies of any subcontract agreement along with copies of all bids or other proposals from Subcontractors. The subcontract agreement shall meet the applicable requirements of Ohio Administrative Code 153:1-3.

- .1— assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2— assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract

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§ 6.1.1 The term “Separate Contractor(s)” shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner’s own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, ~~including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.~~

~~§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner’s own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.~~

§ 6.2.1 The Contractor shall lay out and install its Work at such time or times and in such manner as not to delay or interfere with the carrying forward of the Work of Separate Contractors. The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor’s construction and operations with theirs as required by the Contract Documents.

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§ 6.4 Owner’s Provided Materials

The Owner may provide materials for Contractor to incorporate into the Project, and the Contractor shall incorporate such materials as part of its Work for the Project. The Contractor shall be fully responsible for and the Contract Sum shall cover, all matters relating to the receipt of materials provided by Owner as if the Contractor were the original purchaser, including but not limited to verifying correct quantities; coordinating purchases; providing, obtaining and managing all warranties and guarantees required by the Contract Documents including assistance to the Owner with the enforcement of such warranties and guarantees; inspection and acceptance of the materials; and loss or damage to the materials following acceptance of the materials by the Owner due to the negligence of the Contractor. The Contractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by the Contractor for the particular material furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. The Contractor shall determine prior to incorporation into the Work if such materials are patently defective and whether they are in conformity with the Contract Documents (and, if applicable, any specifications provided by the Owner). If the Contractor discovers defects or non-conformities upon such visual inspection, the Contractor shall not utilize such materials in the Contractor’s Work and instead shall properly notify the Owner of the defective or nonconforming condition so that repair or replacement of those materials can occur without undue delay or interruption to the Project. If the Contractor fails to perform such inspection and incorporates such defective or non-conforming materials into the Contractor’s Work, Contractor shall be responsible for all damages to the Owner resulting from Contractor’s incorporation of such materials into the Work. The Contractor shall maintain records of all Owner-provided materials it incorporates into the Work and shall account to the Owner for all Owner-provided materials delivered into the Contractor’s or Subcontractor’s possession.

§ 7.1.4 The Contractor shall not proceed with any change in the Work without the appropriate written authorization. Except as otherwise provided herein, the Contractor's failure to obtain prior written authorization for a change in the Work shall constitute a waiver by the Contractor of an adjustment to the Contract Sum and/or Contract Time for the related Work. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

- .1— The change in the Work;
- .2— The amount of the adjustment, if any, in the Contract Sum; and
- .3— The extent of the adjustment, if any, in the Contract Time.

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§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs and consequential damages associated with such change, the cumulative impact of the associated change in the Work in combination with one or more other changes in the Work, and any and all adjustments to the Contract Sum and the Contract Time. The Contractor is not entitled to reserve any rights or take other similar action with respect to a Change Order if the effect or intent of the reservation or action would be to accommodate a further adjustment of the Contract Sum or Contract Times, or both, after the Contractor signs the Change Order. A Change Order signed by the Contractor without any indication of change in the Contract Sum and/or Contract Time indicates the Contractor's agreement that there will be no change in the Contract Sum and/or Contract Time. Unless agreed otherwise by the parties, the Change Order form shall be the AIA Document G-701.

§ 7.2.3 The Contractor shall proportionately increase the amount of its bond whenever the Contract Sum is increased. If notice of any change affecting the Contract is required by a provision of the bond, giving the notice shall be the Contractor's responsibility.

- .1— Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2— Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3— Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4— As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner or Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Owner or Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1— Costs of labor Costs or credits arising from a change in the quantity of field labor directly involved in the Work, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect. Each of the fringe benefits shall be a separate line item, and the Contractor shall submit documentation supporting the calculation of the amounts for each fringe benefit for each worker. Each of the allowable payroll expenses shall be a separate line item. Costs that shall not be reimbursed include voluntary employee deductions (such as but not limited to deductions for charitable donations or U.S. savings bonds) and employee profit sharing;

- .2— ~~Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed (based on reasonable delivery charge or per-mile trucking charge for delivery of required materials or equipment), whether incorporated or consumed. The cost or credit for reusable materials (e.g. concrete form lumber, shoring, or temporary enclosures) shall be limited to 33 percent of the material cost for each use;~~
- .3— ~~Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others. Downtime due to repairs, maintenance and weather delays shall not be allowed;~~
- .4— ~~Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and~~
- .5— ~~Costs~~ Costs or credits arising from a change in the quantity of supervision and field office personnel directly attributable to the change;

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- .6 General Conditions Costs. Any costs or credit arising from a change in the quantity of the Contractor's general conditions costs shall be limited to the extent to which the change is attributable to an associated change in the Contract Time for attainment of Substantial Completion resulting from the change in the Work

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time as determined by the Architect, the Contractor may make a Claim in accordance with applicable provisions of Article 15, and the timeline for initiating a Claim begins to run on the date the Architect issues its final determination.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive. Disagreements with the Architect's final determination shall be resolved in accordance with Article 15.

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time. Unless otherwise designated by the Architect, the form to be utilized by Architect in authorizing minor changes in the Work shall be the AIA Document G-710, Architect's Supplemental Instructions.

§ 7.5 Proposal Requests

§ 7.5.1 The Architect may issue to Contractor at any time a proposal request for a change in the Work, including a change in the Contract Sum and Contract Time (a "Proposal Request"). A Proposal Request is not a Change Order, a Construction Change Directive, an order for a minor change in the Work, or authorization to proceed with the change in the Work described in the Proposal Request. Unless otherwise designated by the Architect, the form to be utilized by Architect for a Proposal Request shall be the AIA Document G709, Proposal Request.

§7.5.2 The Contractor shall respond with a proposal to the Architect (a "Proposal") within seven (7) days after receiving the Proposal Request, and the Contractor shall include with its Proposal the Contractor's proposed adjustments to the Contract Sum and Contract Time. The allowable time for the Contractor's response may be extended by written agreement of the Contractor, the Owner and the Architect. Failure to respond within the allowed time frame may result in the Owner proceeding with the work through any other means.

§7.5.3 The Contractor shall hold the Proposal valid and open for acceptance for at least thirty (30) days. The acceptance period may be adjusted by mutual written consent of the Contractor and the Owner.

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§7.5.4 The Owner may accept the Proposal in writing at which point the Contractor's obligations to perform the work as outlined in the Proposal shall become binding. The parties promptly thereafter shall memorialize the Owner's acceptance of the Proposal through a Change Order.

§ 7.6 Request for Change Order

§7.6.1 The Contractor may initiate a Change Order request by submitting written notice to the Architect and Owner accompanied by a Proposal meeting the requirements of Section 7.5.

§ 8.1.2 The date of commencement of the Work is the date established pursuant to the Agreement.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined. Where the term "business day" is used, if the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.3.1 Subject to other provisions of the Contract, the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine will not be entitled to an increase in the Contract Sum and will only be entitled to an extension of the Contract Time on account of delay in the commencement or progress of Work on the critical path of the construction schedule caused by acts of nature or the public enemy, acts or orders of the government not arising from the Contractor's failure to comply with applicable law, fires, floods, weather, and labor disputes beyond the Contractor's control.

§ 8.3.2 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, or an extension of the Contract Time, or both: (i) on account of the impact of any normal adverse weather on any of the Work or on account of the impact of any abnormal adverse weather on Work not on the critical path; (ii) to the extent that a delay occurs concurrently with a delay attributable to the Contractor; or (iii) on account of the delay of any Work not on the critical path.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.3. Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum or any type of damages on account of a delay in the commencement or progress of Work on the critical path unless (i) the delay is caused by the Owner or (ii) the delay was not authorized or permitted under the Contract.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents shall be made in accordance with applicable provisions of Article 15.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed by twenty percent (20%) or more so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, and unless a different timeline is specified in the Agreement, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment within ten (10) days following the date of commencement of the Work, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be, including changes to the Contract Sum and changes required by the Architect if the Architect subsequently determines the schedule of values to be in any way unreasonable or inaccurate, shall be promptly submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3.1 ~~At least ten days before the date~~ In accordance with the timelines established for each progress payment in the Agreement, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers (i) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous Application for Payment was submitted have been paid or otherwise satisfied; (ii) a current list of the Subcontractors and suppliers showing their respective contract sums, amounts paid, and amounts due; (iii) schedule of all materials and equipment stored on-site; (iv) documentation required for materials and equipment stored off-site; (v) conditional lien waivers and releases from Contractor and from all Subcontractors and suppliers to be paid from the payment resulting from the Application for Payment; (vi) unconditional lien waivers and releases from Contractor and from all Subcontractors and suppliers for which Contractor was required to provide a conditional lien waiver in connection with a prior Application for Payment; and (vii) such other data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.2.1 The Contractor's request for storage of materials and equipment off site shall minimally include:

- .1 A list of the fabricated materials consigned to the Project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.
- .2 Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.
- .3 A letter from the Contractor's surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve the Contractor of its responsibility to complete the Work.

- .4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as an additional insured.
- .5 Information pertaining to the Contractor's place of storage, the layout and security of the place of storage, and such information that verifies that the materials are securely stored at the place of storage.
- .6 Subsequent Applications for Payment shall itemize the materials and their cost which were approved on previous Applications for Payment and remain in off-site storage.

~~§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.~~

- ~~.1— defective Work not remedied;~~
- ~~.2— third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;~~
- ~~.3— failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;~~
- ~~.4— reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;~~
- ~~.5— damage to the Owner or a Separate Contractor;~~
- ~~.6— reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or~~
- ~~.7— repeated failure to carry out the Work in accordance with the Contract Documents.~~

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~~§ 9.5.2 When either party the Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party the Contractor may submit a Claim in accordance with Article 15.~~

~~§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment. Contractor disputes a determination by the Architect with regard to a Certificate of Payment, and during any related dispute resolution, litigation, or other proceeding, the Contractor nevertheless shall continue to prosecute the Work~~

~~§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days the timeline set forth in Ohio Revised Code 4113.61, after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.~~

~~§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor [Intentionally Deleted].~~

~~§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted, including but not limited to claims for unjust enrichment. In the event that the Owner receives a claim affidavit in accordance with Ohio Revised Code Chapter 1311 relating to amounts due and unpaid for labor and work performed and material furnished for the Work, the~~

Owner shall detain the amount due and owing from the Contractor unless and until the claim is released and/or discharged as more particularly set forth in said Chapter 1311. Posting a bond or other security discharging a lien shall not relieve the Contractor of its indemnity obligations in this Section.

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If the Architect does not issue a Certificate for Payment, Owner, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents Agreement, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time provided that Contractor shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents not stop Work for non-payment if the Owner initiates the payment process for any undisputed amounts due the Contractor.

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents, including all necessary testing and/or startup, and when all required occupancy permits and any other necessary permits and approvals, if any, have been issued, so that the Owner can occupy or utilize the Work for its intended use, subject only to the completion or correction of minor items of Work that will not interfere with or hinder the Owner's use of the Work and areas adjacent to the Project site.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete or correct all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete Substantially Complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine Substantial Completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

§ 9.8.4 When the Work or designated portion thereof is substantially complete Substantially Complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. (the "punch list"), or, if no timeframe is fixed, then not greater than thirty (30) days from the date of the Certificate. Failure to include an item on the Certificate and punch list does not alter the responsibility of the Contractor to complete or correct deficiencies in the Work in accordance with the Contract Documents. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents and following certification of an Application for Payment, the Owner shall make payment of retainage as set forth in the Agreement.

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented

to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is ~~substantially complete~~ Substantially Complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion ~~substantially complete~~ Substantially Complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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§ 9.9.3 Unless otherwise agreed upon in writing, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine final completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered Project (less amounts withheld by Owner) have been paid or otherwise satisfied (unless a different form is agreed to, Contractor shall provide the AIA Document G-706, Contractors Affidavit of Payment of Debts and Claims and AIA Document G-706A, Contractors Affidavit of Release of Liens), (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of the Contractor's surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if all documents and items required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to be submitted by Contractor in accordance with the Contract Documents which shall include those items set forth in Section 3.11 which have not previously been delivered to Owner, (7) unconditional lien waivers and releases from Contractor and all Subcontractors and suppliers; and (8) if required by the Owner, other data establishing payment or satisfaction of obligations to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.4 The making of final payment shall constitute a waiver of ~~Claims~~ claims by the Owner except those arising from

- .1— liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2— failure of the Work to comply with the requirements of the Contract Documents;
- .3— terms of special warranties and guarantees required by the Contract Documents; or

- .4— audits performed by the Owner, if permitted by the Contract Documents, after final payment; or
- .5 claims, damages, losses or expenses for indemnification.

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The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor's safety program shall be written and a copy maintained at the Project site for inspection, upon request. Neither the Owner nor the Architect accept any responsibility or liability for the safety of the Contractor's employees or for enforcing the Contractor's safety program. Additionally, Contractor shall comply with the Owner's rules, regulations, and policies including, but not limited to, the Owner's safety, health, and infection control policies and programs.

- .1— employees on the Work and other persons who may be affected thereby;
- .2— the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; ~~and~~
- .3— other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, benchmarks, monuments, other reference points, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- .4 construction or operations by the Owner and Separate Contractors.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall give Owner and Architect reasonable advance notice thereof and shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail and names of witnesses to enable the other party to investigate the matter.

§ 10.2.9 If a Separate Contractor incurs damages resulting from the Contractor's performance of its Work, and the Contractor fails to remedy the damage or to reimburse the Separate Contractor for its damages, then the Owner reserves the right to pay the Separate Contractor suffering the damage and deduct such amounts from the amount due the Contractor.

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§ 10.2.10 The Contractor acknowledges that the safety of the public and of the employees, invitees and guests of the Owner is of the utmost importance. While the Contractor is at the Project site, the Contractor will take no action that would jeopardize the safety of the public and of the Owner's employees, invitees or guests and, without the Owner's written approval, shall take no action that would interfere with the Owner's activities. The Owner reserves the right to require the Contractor and its employees to wear identification (subject to applicable safety standards), to stay in designated Work areas at all times while on the Owner's property and to record on a log a person's presence immediately upon entering the Owner's property. The Owner shall have the right to effect the immediate removal of a person from the Project site for failure to wear identification, for being outside a designated work area, for fraternizing with or engaging in any inappropriate behavior directed toward or in the vicinity of employees, invitees or guests of the Owner or for other good cause shown.

§ 10.2.11 The Contractor shall be enrolled in and remain in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Safety Program or a comparable program approved by the Bureau that meets the requirements of Ohio Revised Code 153.03. Contractor shall comply with and shall require its Subcontractors to comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements under Revised Code 153.03(E), and Contractor shall include language in its subcontractual agreements mandating that each Subcontractor require Sub-subcontractors to similarly comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements.

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance that is concealed or not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain or cause to be obtained the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. ~~Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by~~ The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (i) the Owner causes remedial work to be performed that results in the absence of the materials or substances or renders the material or substance harmless as evidenced by a written report which is prepared by an environmental consultant retained by Owner, or (ii) the Owner and the Contractor, by written agreement, decide to resume performance of the Work, or (iii) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum equitably adjusted based on the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 ~~To the fullest extent permitted by law, the~~ [Intentionally Deleted].

§ 10.3.4 ~~The Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.~~ § 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances. Hazardous materials or substances to be used at the Project site by Contractor shall be identified by a Safety Data Sheet. The Contractor shall assemble all of its applicable Safety Data Sheet in a notebook and submit it to the Architect for its information prior to a hazardous material or substance being brought to the Project site. The Contractor shall maintain all Safety Data Sheet notebooks at the Project site for the duration of the Project.

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§ 10.3.6 ~~If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred~~ [Intentionally Deleted].

§ 11.1.1 The Contractor shall purchase from and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents in a company or companies rated A- or higher by Best Insurance Reports and lawfully authorized to do business in the State of Ohio such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. Insurance required by Section 11.1.1 shall include and shall be written for not less than the following, or as required by law, whichever coverage is greater.

.1 Workers' Compensation: Statutory

.2 Employer's Liability: (1) an each-accident limit of not less than \$1,000,000, (2) a disease each-employee limit of not less than \$1,000,000, and (3) a disease policy limit of not less than \$1,000,000;

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.3 Commercial General Liability ("CGL"): (1) an each-occurrence limit of not less than \$2,000,000, (2) a general aggregate limit of not less than \$2,000,000, and (3) a products and completed-operations aggregate limit of not less than \$2,000,000. The CGL insurance shall provide at least equivalent coverage for liability arising from premises, operations, independent contractors, products/completed-operations (shall not exclude coverage to the additional insured(s) for bodily injury or property damage), personal and advertising injury, and liability assumed under an insured contract. The CGL insurance shall not exclude coverage for damage to electronic data. The CGL policy shall be endorsed providing equivalent coverage to provide that the general aggregate limit applies separately to each of the insured's projects;

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.4 Automobile Liability: covering all owned, non-owned, and hired vehicles used in connection with the Work: Bodily injury (including death and emotional distress) and property damage with a combined single limit of \$1,000,000 each accident;

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.5 Umbrella/Excess Liability: Such policies shall be supplemented by an umbrella policy of additional protection in the amount of \$5,000,000 aggregate;

.6 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall maintain Professional Liability Insurance covering performance of the professional services, with policy limits of not less than \$1,000,000 per claim and \$1,000,000 in the aggregate; and

.7 Pollution Liability: If the Work includes environmentally sensitive, hazardous types of activities (such as demolition, exterior insulation finish systems, asbestos abatement, storage-tank removal, or similar activities), or involves hazardous materials, the Contractor shall maintain a contractor's pollution liability policy with (1) a per-claim limit of not less than \$1,000,000 and (2) an annual-aggregate limit of not less

than \$1,000,000, covering the acts, errors and/or omissions of the Contractor for damages (including from mold) sustained by the Owner by reason of the Contractor's performance of the Work. The policy shall have an effective date, which is on or before the date of commencement of the Work.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain required coverages without interruption from the date of commencement of the Work and for not less than five years following Substantial Completion. The Contractor shall pay all deductibles, self-insured retentions, or both contained in the policies of insurance. The Contractor shall continue to provide evidence of coverage to the Owner on an annual basis during the aforementioned period.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto³ The Contractor shall submit to the Architect and the Owner a copy of certificates of insurance prior to commencement of the Work. Certificates shall include each and every type of coverage specified. Such certificates shall name the Owner and Architect as additional insureds and shall contain a statement that the Owner will be notified 30 days prior to the cancellation of any insurance policy evidenced by this certificate. The additional insureds requirements of this Section shall include completed and ongoing operations and Contractor shall provide additional insured endorsements. An additional certificate evidencing continuation of liability coverage, including coverage for completed and ongoing operations, shall be submitted with the final Application for Payment as required by Section 9.10.2. When any required insurance, due to the attainment of a normal expiration date or renewal date, shall expire, the Contractor shall supply the Owner with Certificates of Insurance and amendatory riders or endorsements that clearly evidence the continuation of all coverage in the same manner, limits of protection, and scope of coverage as was provided by the previous policy if and to the extent required to meet the insurance requirements of this Section 11.1. All renewal and replacement policies shall comply with the requirements of this Section 11.1. A failure of the Owner to request a certificate or other evidence of compliance with the insurance requirements or a failure of the Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of the Contractor's obligation to maintain the required insurance.

§ 11.1.4 The Contractor shall cause all Subcontractors to provide Workers' Compensation, Comprehensive General Liability, and Automobile Liability Insurance with commercially reasonable limits and certificates of insurance related thereto. Such certificates shall name the Owner and Architect as additional insureds.

§ 11.1.5 The Contractor shall not commence Work under the Contract until the Contractor has obtained and provided proof of all insurance required under this heading.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance⁶ All liability policies required in this Section 11.1 shall be primary and non-contributory with respect to any other insurance or self-

insurance programs that cover the Owner or an additional insured.

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§ 11.1.7 If Contractor fails to purchase and/or maintain any insurance required under Section 11.1, the Owner may, but shall not be obligated to, upon seven (7) days written notice to Contractor, purchase such insurance on behalf of the Contractor and shall be entitled to be reimbursed by the Contractor upon demand.

§ 11.1.8 Performance Bond and Payment Bond

§ 11.1.8.1 The Contractor shall furnish bonds as required in the Agreement between Owner and Contractor.

§ 11.1.8.2 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of, (i) notice of changes in the Work; (ii) request for reduction or release of retainage; (iii) request for final payment; and (iv) any other item required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform the surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interests, privileges and benefits under and pursuant to any bond issued in connection with the Work. The Contractor shall be notified by the Owner, in writing, of any communications with the surety.

§ 11.1.8.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property. If at any time any surety providing bonds for the Project (1) is adjudged bankrupt or has made a general assignment for the benefit of its creditors; (2) has liquidated all assets or has made a general assignment for the benefit of its creditors; (3) is placed in receivership; (4) otherwise petitions a state or federal court for protection from its creditors; or (5) allows its license to do business in Ohio to lapse or to be revoked, then the Contractor shall immediately, but no later than 21 days of any such action listed above, provide the Owner with new bonds in the form and amount required under the Contract.

§ 11.2 Property Insurance

§ 11.2.1 Unless otherwise provided in the Agreement, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property required by this Section to be covered, whichever is later.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner. 1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, tornado, flood, windstorm, explosion, breakage of glass, falsework, testing and startup, temporary buildings and structures, materials used in the construction process, hot and cold testing, and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. Coverage shall include a provision to pay the reasonable extra costs of acceleration and expediting temporary and permanent repairs to, or permanent replacement of, damaged property (including overtime wages directly incurred to accelerate restoration or repair of the damaged property, and the extra costs that are directly incurred to rapidly transport materials and supplies necessary to the repair or replacement); soft costs coverage to the extent commercially available to comparable insureds, including the reasonable direct costs incurred by Architect and/or Contractor as a result of a property damage loss covered by the policy; and provisions for mechanical or electrical breakdown, or boiler system testing. Coverage shall be primary to all other applicable insurance. Notwithstanding any of the foregoing, the insurance shall include coverage only for those costs incurred as a direct result of direct physical damage to property otherwise covered by the policy; business income, business interruption, home office overhead, and lost productivity costs of Contractor or any subcontractor at any tier shall not be covered.

§ 11.2.1.2 If the property insurance requires minimum deductibles, the Contractor shall pay costs not covered by the insurance because of such deductibles.

§ 11.2.1.3 This property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

§ 11.2.1.4 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work. 2.1.5 The insurance required by this Section 11.2 is not intended to cover machinery, tools, apparatus, scaffolding, hoists, forms, staging, shoring or other equipment owned or rented by the Contractor which are utilized in the performance of the Work but not incorporated into the permanent improvements. The Contractor shall, at the Contractor's own expense, provide insurance coverage for owned or rented machinery, tools or equipment.

§ 11.3 WAIVERS OF SUBROGATION

The Contractor waives all rights against the Owner and their agents and employees for damages to the extent covered by any insurance, except rights to the proceeds of that insurance. All policies shall accomplish the waiver of subrogation by endorsement or otherwise. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of the Owner and Contractor; all Sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 11.4 A loss insured under the Owner's property insurance shall be adjusted by the Owner in good faith and made payable to the Owner for the insureds, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner in good faith shall have power to adjust and settle a loss with insurers.

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§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within for a period of one year after the date of Substantial Completion of the Work or designated portion thereof or after, the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct Contractor shall correct any of the Work that is found defective in workmanship, materials or not in accordance with the requirements of the Contract Documents. If defective or nonconforming Work becomes apparent within the one-year period, the Owner shall notify the Contractor in writing. Within fourteen (14) days of receipt of said notice, the Contractor shall visit the Project in the company of one or more representatives of the Owner to determine the extent of the defective or nonconforming Work. If the defective or nonconforming Work is considered by the Owner to be an emergency, the Owner may require the Contractor to visit the Project within one (1) calendar day or less of receipt of said notice. The Contractor shall promptly repair or replace the defective or nonconforming Work, including all adjacent Work damaged as a result of such defective or nonconforming Work. The Contractor shall be fully responsible for the cost of temporary materials, facilities, utilities or equipment required during the repair or replacement of the defective or nonconforming Work. If the Contractor fails to correct defective or nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work With respect to items of Work that are corrected, completed or first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work but prior to final completion of the Project, including completed punch list items, the one-year period with respect to these items shall commence upon correction or completion of the item.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2. One month prior to the end of the one (1) year period, the Contractor shall attend a walk-through of the Project scheduled by the Architect.

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If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The acceptance of nonconforming Work by the Owner shall be by written Change Order.

The Contract shall be governed by the law/laws of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4. State of Ohio. Any suit, which may be brought to enforce any provision of this Agreement or any remedy with respect hereto, shall be brought in the Common Pleas Court of the County

where the Project is located which shall have exclusive jurisdiction to the exclusion of all other jurisdictions. The applicable statutes of limitations and repose under Ohio law shall apply to all causes of action between the Owner and Contractor.

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder are cumulative and shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall be present at and shall give the Architect timely notice of when and where tests and inspections are to be made, including intermediate and final inspections, so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

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§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense. The Contractor also agrees the cost of testing services required for the convenience of the Contractor in the scheduling and performance of the Work, and the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

§ 13.4.7 Any reports or documents resulting from tests, inspections and approvals required under this Section 13.4 shall be submitted to the Owner and Architect.

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located set forth in the Agreement.

§ 13.6 Training Sessions

The Contractor will participate in training sessions for the Owner in cooperation with the Architect, Owner, Owner's personnel and consultants and the Contractor will participate in tests in cooperation with the Architect, Owner, Owner's personnel and consultants to the extent applicable to the Contractor's Work.

§ 13.7 Equal Opportunity

§ 13.7.1 The Contractor shall comply with applicable law regarding equal employment opportunity, including Ohio Revised Code Section 153.59. The Contractor shall cooperate fully with the State's Equal Opportunity Coordinator, with any other official or agency of the state or federal government that seeks to eliminate unlawful employment discrimination, and with all other state and federal efforts to assure equal employment practices under the Contract. The Contractor agrees to the following:

§ 13.7.1.1. That, in the hiring of employees for the performance of Work under the Contract or any Subcontract, Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not discriminate against any citizen of the state who are qualified and available to perform the services to which the employment relates by reason of race, color, religion, sex, age, disability, military status as defined in section 4112.01 of the Revised Code, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics; and

§ 13.7.1.2. That Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not in any manner discriminate against, intimidate, or retaliate against any employee hired for the performance of services under the Contract on account of race, color, religion, sex, age, disability, military status, veteran status,

national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics.

§ 13.7.2. In the event the Contractor fails to comply with these nondiscrimination clauses, the Contractor shall be subject to the forfeiture requirements of Ohio Revised Code Section 153.60.

§ 13.7.3 Hiring Under State Public Improvement Contracts. Any provision of a hiring hall contract or agreement which obligates the Contractor to hire, if available, only employees referred to the Contractor by a labor organization shall be void as against public policy and unenforceable with respect to employment under any public improvement contract unless at the date of execution of the hiring hall contract or agreement, or within thirty (30) days thereafter, the labor organization has procedures in effect for referring qualified employees for hire without regard to race, color, religion, national origin, military status as defined in Ohio Revised Code Section 4112.01, or ancestry and unless the labor organization includes in its apprentice and journeyperson's membership, or otherwise has available for job referral without discrimination, qualified employees, both whites and non-whites (including African-Americans).

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§ 13.8 The table of contents, titles, headings, running headlines and marginal notes contained in the Contract are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or describe or limit the interpretation of the provisions to which they refer.

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30/75 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1— Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or
- .2— An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or
- .3— Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because Because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or,
- .4— The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2 [Intentionally Deleted].

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seventhirty days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3, provided that the reason for the termination is not cured within the thirty-day period and recover from the Owner payment for Work executed as of the date of termination, but not overhead and profit on Work not executed and not to exceed the Contract Sum (however, if such reason for termination cannot reasonably be cured within the thirty-day period, then Contractor shall not terminate the Contract so long as Owner commences to cure the reason for termination within such thirty-day period and diligently pursues such cure).

- .1— repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2— fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliersSuppliers;

- .3— repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4— otherwise is ~~guilty of substantial~~ in material breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, ~~and upon certification by the Architect that sufficient cause exists to justify such action,~~ the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, and provided that the reason for the termination is not cured within the seven-day period, terminate employment of the Contractor and ~~may, subject to any prior rights of the surety/ or exercise the following non-exclusive remedies which will be cumulative:~~

- .1— Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2— Accept assignment of subcontracts pursuant to Section 5.4; and
- .3— Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a ~~detailed~~ general accounting of the costs incurred by the Owner in finishing the Work.

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§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, ~~such excess then Contractor shall be paid to the Contractor for Work that it satisfactorily performed prior to the date of termination but not to exceed such excess unpaid balance.~~ If such costs and damages exceed the unpaid balance, the Contractor and the Contractor's surety shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 Should the Owner terminate this Agreement for cause under this Section 14.2, but that cause be subsequently found insufficient to support termination, the termination shall be deemed one of convenience under Section 14.4.

§ 14.2.6 If the Contract is terminated for cause, the Contractor's surety may perform the Contract. If the Contractor's surety does not commence performance of the Contract within ten (10) days of the date of Contract termination, the Owner may complete the Work by means the Owner determines appropriate. If the Contractor's surety performs the Work, the provisions of the Contract Documents govern the surety's performance, with the surety in place of the Contractor in all provisions including, but not limited to, provisions for payment for the Work, and provisions of the right of the Owner to complete the Work.

§ 14.3.2 The Contract Sum and Contract Time shall be equitably adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1— that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2— that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4.1 The Owner may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall with respect to the Work that is terminated:

- .1— cease operations as directed by the Owner in the notice;

- .2— take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3— except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and
- .4 deliver to Owner all Project-related documents and work product of Contractor and its Subcontractors related to the Work

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement. If the Contract is terminated in accordance with this Section 14.4, the Owner will pay the Contractor, i) for Work performed under the Contract up to the date the notice of termination is received by the Contractor at the rates for Work performed under the Contract, including overhead and profit up to the date of termination and reasonable expenses directly attributable to the termination, but not for overhead or lost profit on unperformed Work, ii) for Work performed at the direction of the Owner on and after the date on which the notice of termination is received by the Contractor, as determined by the procedures applicable to Construction Change Directives, and iii) for Work necessary to protect and preserve the Work, as determined by the procedures applicable to Construction Change Directives.

§ 14.4.4 The termination of the Contract under this Section 14.4 shall be without prejudice to rights or remedies which exist at the time of termination.

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§ 14.5 Contractor Insolvency

§ 14.5.1 The Owner may immediately terminate the Agreement for cause if:

§ 14.5.1.1 the Contractor commences a voluntary case under Title 11 of the United States Code or the corresponding provisions of any successor laws; or

§ 14.5.1.2 any legal entity commences an involuntary case against the Contractor under Title 11 of the United States Code or the corresponding provisions of any successor laws and (1) the case is not dismissed within 60 days after its commencement; or (2) the court before which the case is pending issues an order for relief or similar order approving the case; or

§ 14.5.1.3 a court of competent jurisdiction appoints, or the Contractor makes an assignment of all or substantially all of its assets to, a receiver, trustee, liquidator, or other similar custodian for the Contractor or all or substantially all of the Contractor's assets; or

§ 14.5.1.4 any attachment, execution, or other judicial seizure is levied against all or substantially all of the Contractor's assets; or

§ 14.5.1.5 the Contractor takes any action toward the dissolution or winding up of its business; or

§ 14.5.1.6 the Contractor fails generally to pay its debts as they become due (unless those debts are subject to a good-faith dispute as to liability or amount) or it acknowledges in writing that it is unable to do so.

§ 14.5.2 If the Contractor files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it, the Contractor, the Contractor as the debtor-in-possession, or the trustee of the Contractor's bankruptcy estate shall file a motion to assume or reject the Contract under Bankruptcy Code §365, 11 U.S.C. §365, within 20 days after the filing of the voluntary petition or involuntary petition and shall diligently prosecute that motion to conclusion so as to obtain an order granting or denying that motion within 45 days after the filing of the voluntary or involuntary petition.

§ 14.5.3 If the Owner intends to exercise its termination rights under this Section 14.5, the Owner shall notify the Contractor in writing of the Owner's termination of the Contract and the cause(s) for that termination.

§ 14.5.4 The Contractor agrees to the granting of relief from the automatic stay of the Bankruptcy Code, 11 U.S.C. §362(a), to permit the Owner to terminate the Contract for cause in such instance and issue and serve all notices necessary to terminate the Contract or arising out of the termination of the Contract and to take any and all other action necessary to terminate the Contract.

A Claim is a demand or assertion by ~~one of the parties~~ Contractor seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question ~~between asserted by the Owner and Contractor~~ arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the ~~party making the Claim. This Section 15.1.1 Contractor.~~ The Contract, including but not limited to this Article 15 does not require the Owner to ~~file make a Claim in order to impose liquidated damages claim, dispute, demand or assertion against the Contractor for the payment of money, a change in the Contract Time or other relief or in order for the Owner to exercise its rights and remedies against the Contractor, including but not limited to the remedying of a Contractor default, the imposition of liquidated damages and binding dispute resolution~~ in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims Causes of Action

The Owner and Contractor shall commence all ~~Claims and~~ causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, ~~but in any case not more than 10 years after the date of Substantial Completion of the Work statute of limitation and repose.~~ The Owner and Contractor waive all ~~Claims and~~ causes of action not commenced in accordance with this Section 15.1.2.

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§ 15.1.3.1 Claims by either the Owner or Time Limit on Claims. Claims by Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the ~~other party~~ Owner and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by ~~either party the Contractor~~ under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the ~~claimant Contractor~~ first recognizes the condition giving rise to the Claim, whichever is later. Failure to submit proper and timely notice in accordance with this Section shall constitute a waiver and abandonment of the Claim by Contractor.

§ 15.1.3.2 Contractor Claims by either and claims by the Owner or Contractor, where the condition giving rise to the ~~Claim~~ is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions, as recorded at the government-controlled weather-recording facility nearest to the Project site, were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.6.3 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor

The Contractor and Owner waive ~~Claims claims~~ against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1— damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

- .2— damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, ~~except anticipated profit arising directly from the Work.~~

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents, nor shall this Section 15.1.7 apply to a party's gross negligence, willful misconduct or indemnity obligations.

§ 15.1.8 Substantiation and Certification of Claim

§ 15.1.8.1 Substantiation of Claim. Within fifteen (15) days after the initiation of a Claim by Contractor, the Contractor shall substantiate its Claim by providing the following minimum written information to Owner: (i) a narrative of the circumstances which gave rise to the Claim, including, without limitation, the start date of the event or events and the actual, or anticipated, finish date; (ii) detailed identification of the Work affected by the event giving rise to the Claim; (iii) copies of the Contractor's daily log for each day of impact; (iv) copies of relevant correspondence and other information regarding or supporting Contractor's entitlement; (v) copies of the Contractor's most recent income statement, including segregated general and administrative expenses for the most recent reporting period, and for the period of the Contract, if available, and similar information for any Subcontractor claim included; (vi) if the Claim is for additional cost, the amount of the Claim, the information specified in Section 15.1.5 herein and a statement that the increase requested is the entire increase in the Contract Sum associated with the Claim; (vii) if the Claim is for additional Contract Time, the information specified in Section 15.1.6 herein. Contractor shall also provide such additional information as requested by Owner or Architect to substantiate the Contractor's Claim within ten (10) days following request. The Contractor shall provide the required information in the formats requested, which include both paper and electronic copies. The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

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§ 15.1.8.2 Certification of Claim. Within fifteen (15) days after the initiation of the Claim by Contractor, the Contractor shall certify its Claim by providing the notarized certification, signed and dated by the Contractor, as follows: "The undersigned Contractor certifies that the Claim is made in good faith; that the supporting data is accurate and complete to the best of the Contractor's knowledge and belief; that the amount requested is a fair, reasonable, and necessary adjustment for which the Contractor believes the Owner is liable; and that the undersigned is duly authorized to certify the Claim on behalf of the Contractor." The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

§ 15.2.1 Contractor Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, ~~the party asserting the Claim~~ Contractor may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and ~~within ten days of the receipt of a Claim~~ take one or more of the following actions: (1) request additional supporting data from the ~~claimant~~ Contractor or a response with supporting data from the ~~other party~~ Owner, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. ~~Upon~~

receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

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§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, ~~the~~ either party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3.1 ~~Claims, disputes~~ Disputes, or other matters in controversy between the parties, including a Claim, arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their ~~Claims~~ disputes or other matters in controversy by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

Variable Information

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 18:08:30 EDT on 03/31/2026 under Order No. 20240033079 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ - 2017, General Conditions of the Contract for Construction, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

BID FORM

Project: Dublin City School District, DCSD Plumbing Improvements Project – Wyandot Elementary School.

The undersigned, having read and examined the premises and the Contract Documents, including without limitation the Drawings and Specifications, prepared for the above-referenced Project, and the following Addenda:

Addendum Number	Date of Receipt
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

submits its Bid for the Project.

The Contractor acknowledges that all Work shall be completed within the time established in the Contract Documents, and that each applicable portion of the Work shall be completed upon the respective milestone completion dates, unless an extension of time is granted in accordance with the Contract Documents.

The undersigned Bidder proposes to perform all Work for the applicable Contract, in accordance with the Contract Documents, for the following sums:

ITEM 1. BASE BID

ALL LABOR AND MATERIALS, for the sum of \$ _____

Sum in words: _____

BIDDER'S CERTIFICATION

The Bidder hereby acknowledges that the following representations in this Bid are material and not mere recitals:

1. Bidder has read and understands the Contract Documents and agrees to comply with all requirements of the Contract Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder which might indicate a contrary intention.
2. The Bidder represents that the Bid is based upon the standards specified by the Contract Documents.

3. The Bidder has visited the Project site, become familiar with local conditions and has correlated personal observations about the requirements of the Contract Documents. The Bidder has no outstanding questions regarding the interpretation of the Contract Documents.
4. The Bidder understands that the award of separate contracts for the Project will require sequential, coordinated and interrelated operations which may involve interference, disruption, hindrance or delay in the progress of the Bidder's Work. The Bidder agrees that the Contract price, as amended from time to time by Change Order, shall cover all amounts due from the Owner resulting from interference, disruption, hindrance or delay caused by or between Contractors or their agents and employees. The Bidder agrees that any such interference, disruption, hindrance or delay is within the contemplation of the Bidder and the Owner and that the Contractor's sole remedy for such interference, disruption, hindrance or delay shall be an extension of time in accordance with the Contract Documents. This provision is intended to be, and shall be construed as, consistent with and not in conflict with, Section 4113.62, ORC, to the fullest extent permitted.
5. The Bidder and each person signing on behalf of the Bidder certifies, and in the case of a joint or combined Bid, each party thereto certifies as to such party's organization, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices and any Alternate Bid in the Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate Bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate Bid in the Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to the Bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices or Alternate Bid; (c) no attempt has been made or will be made by the Bidder to induce any other individual, partnership or corporation to submit or not to submit a Bid for the purpose of restricting competition.
6. Bidder will enter into and execute the Agreement with the Owner, if a Contract is awarded on the basis of this Bid, and if the Bidder does not execute an Agreement for any reason, other than as authorized by law, the Bidder and the Bidder's Surety are liable to the Owner as provided in the Ohio Revised Code and as applicable to the Owner.
7. Bidder certifies that the upon the award of a Contract, it will make a good faith effort to ensure that all of its employees, while working on the site of the Project, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.
8. Bidder agrees to furnish any information requested by the Owner to evaluate the responsibility of the Bidder.
9. The Bidder certifies that upon the execution of the Contract, the Contractor shall be enrolled in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Workplace Program (DFWP) or an equivalent BWC approved DFWP throughout the entire Project, in accordance with Ohio Revised Code Sections 153.03 to 153.031. The Bidder acknowledges the responsibility to require all Subcontractors to be enrolled in good standing in the Ohio Bureau of Workers' Compensation DFWP or comparable Bureau of Workers' Compensation approved program that meets the requirements specified in Ohio Revised Code Sections 153.03 to 153.031, prior to the Subcontractor providing labor at the Project site.

Each Bid shall contain the name of every person interested therein. If the Bidder is a corporation, partnership or sole proprietorship, an officer, partner or principal of the Bidder, as applicable, shall print

or type the legal name of the Bidder on the line provided and **sign the Bid Form**. If the Bidder is a joint venture, an officer, partner or principal, as applicable, of each member of the joint venture shall print or type the legal name of the applicable member on the line provided and sign the Bid Form.

BIDDER'S NAME:

Authorized Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Mailing Address: _____

Telephone Number: (____) _____

Facsimile Number: (____) _____

Where Incorporated: _____

Federal ID Number: _____

Contact Person for Contract processing:

Print Name: _____

Title: _____

E-mail: _____

DUBLIN CITY SCHOOL DISTRICT BOARD OF EDUCATION

CONTRACTOR'S PERSONAL PROPERTY TAX AFFIDAVIT (O.R.C. § 5719.042)

State of Ohio
County of _____, ss:

_____, being first duly sworn, deposes and says that he is the
(Name)

_____ of _____ with offices located at
(Title) (Contractor)

_____, and as its duly
(Address of Contractor)

authorized representative, states that effective this ____ day of _____, 20____,

(Name of Contractor)

- () is charged with delinquent personal property taxes on the general list of personal property as set forth below:

<u>County</u>	<u>Amount</u> (includes total amount due, plus penalties and interest thereon)
Delaware	\$ _____
Franklin	\$ _____
Union	\$ _____

- () is not charged with delinquent personal property taxes on the general list of personal property in Delaware, Franklin, or Union Counties.

(Affiant)

Sworn to and subscribed before me by the above-named affiant this ____ day of _____, 20____.
The notarial act certified is hereby a jurat. An oath or affirmation was administered to the signer with regard to the notarial act certified to hereby.

(Notary Public)

My commission expires

_____, 20____

CONTRACTOR'S QUALIFICATION STATEMENT

SUBMITTED TO: _____

NAME OF PROJECT: _____

SUBMITTED BY: _____

CONTRACTOR PROJECT CONTACT NAME: _____

ADDRESS: _____

EMAIL: _____

PHONE: _____

PRINCIPAL OFFICE: _____

- ☐ Corporation
☐ Partnership
☐ Individual
☐ Joint Venture
☐ Other

#	Question	Response
1 - Organization		
1.1	How many years has your organization been in business as a Contractor in the construction industry?	
1.2	How many years has your organization been in business under its present business name?	
1.2.1	Under what other or former names has your organization operated?	
1.3	Is your organization a corporation? If yes, answer #1.3.1 – 1.3.6	
1.3.1	Date of incorporation	
1.3.2	State of incorporation	

1.3.3	President's name	
1.3.4	Vice President's name(s)	
1.3.5	Secretary's name	
1.3.6	Treasurer's name	
1.4	Is your organization a partnership? If yes, answer #1.4.1 – 1.4.3	
1.4.1	Date of organization	
1.4.2	Type of partnership (if applicable)	
1.4.3	Name(s) of general partner(s)	
1.5	Is your organization individually owned? If yes, answer #1.5.1 – 1.5.2	
1.5.1	Date of organization	
1.5.2	Name of owner	
1.6	If the form of your organization is other than those listed above, describe it and name the principals.	

2 - Licensing		
2.1	List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.	
2.2	List jurisdictions in which your organization's partnership or trade name is filed.	
2.3	List any suspension or revocations of any professional license of any director, officer, owner, or managerial employees of your organization, to the extent that any work to be performed on this Project is within the field of such licensed profession.	
3 - Financing		
3.1	Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items: Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses); Net Fixed Assets; Other Assets; Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes); and Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).	
3.2	Name and address of firm preparing attached financial statement, and date thereof.	
3.3	Is the attached financial statement for the identical organization named on page one?	

3.4	If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidary).	
3.5	Will the organization whose financial statement is attached act as guarantor of the contract for construction?	
3.6 - Financing: After bid opening, within 24 hours of a request made by the Owner or Design Professional, the apparent low Bidder and any other Bidder must submit additional financial information as requested.		
4 - References		
4.1	Trade References	
4.2	Bank References	
4.3	Surety – name of bonding company	
4.4	Surety – name and address of agent	
5 – Claims and Organization History		

5.1	Attach your organization's record for both resolved and unresolved findings of the Auditor of the State of Ohio for recovery as defined in Section 9.24 of the Ohio Revised Code. If none, state "none".	
5.2	Does your organization participate in a drug-free workplace program?	
5.3	Has your organization ever failed to complete any work or failed to complete any work by the substantial completion date, final completion date, or in a timely manner? If yes, attach details.	
5.4	Within the last five (5) years has your organization or any of its officers prosecuted any Claims, had any Claims prosecuted against it or them, or been involved in or is currently involved in any mediation or arbitration proceedings or lawsuits related to any construction project, or has any judgments or awards outstanding against it or them? If the answer is yes, please attach the details for each Claim, including the names and telephone numbers of the persons who are parties, the amount of the Claim, the type of Claim and basis for the Claim, and the outcome. Note: As used in this document "Claim" means a Claim initiated under the Contract Documents for a project or relating to the Work for a project, including Claims made against performance bonds secured by the Contractor on other construction projects.	
5.5	Has your organization ever failed to comply with federal, state, and local laws, rules and regulations including but not limited to the Occupational Safety and Health Act, the Ohio Prevailing Wage laws, and Ohio ethics laws? If yes, please attach details and reason(s) for each instance and the outcome including any fines or penalties imposed.	
5.6	Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? If the answer is yes, please attach details for each instance, including the names and telephone numbers of the persons who are parties to the contract, and the reason(s) the contract was not completed.	
5.7	If any of the following members of your organization's management – president, chairman of the board, or any director – operates or has operated another construction company during the last five (5) years, identify the member of management and the name of the construction company.	

5.8	If your organization is operating under a trade name registration with the Secretary of State for the State of Ohio, identify the entity for which the trade name is registered. If none, state "none."	
5.9	If your organization is a division or wholly-owned subsidiary of another entity or has another relationship with another entity, identify the entity of which it is a division or wholly-owned subsidiary or with which it has another relationship and also identify the nature of the relationship. If none, state "not applicable."	
5.10	List any projects within the previous five years where a public entity determined that your organization was not a responsible bidder, including the name of the public entity, the reasons given by the public entity, and an explanation thereof.	
6 - Experience		
6.1	List the categories of work that your organization normally performs with its own forces	
6.2	State average annual amount of construction work your organization has performed during the last five years	
6.3	State total amount of work in progress and under contract	
6.4	Describe the size and experience of your organization's work force and your equipment and facilities, in relation to your organization's ability to complete the Project successfully and on time.	

6.5	In the chart below, provide the following information for each contract your organization has had during the last 5 years, including current contracts, where the Contract Sum is/was 50% or more of the bid amount for this Project, including add alternates. Include details regarding timeliness of performance and quality of work. List the original contract price for each project, the amount of any change orders or cost overruns on each, and the reasons for the change orders or cost overruns, and your organization's record for complying with and meeting completion deadlines on construction projects. If there are more than 10 of these contracts only provide information on the most recent 10 contracts, including current contracts.
-----	--

Project/Scope of Work	Original Contract Sum	Amount of any change orders or cost overruns and reasons	Completion deadlines met?	Owner's Contact & Telephone Number	Engineer's or Architect's Representative Name & Telephone Number

Project/Scope of Work		Original Contract Sum	Amount of any change orders or cost overruns and reasons	Completion deadlines met?	Owner's Contact & Telephone Number	Engineer's or Architect's Representative Name & Telephone Number
6.6		In the chart below, provide the following information for each project your organization has had during the last 5 years, which your organization believes is of comparable or greater size and complexity than the Owner's project. If there are more than 5 of these projects, only provide information on the most recent 5 projects, including current projects.				

Project and Scope of Work	Contract Sum	Owner's Contact & Telephone Number	Engineer's or Architect's Representative Name & Telephone Number

6.7 In the chart below, list the construction education, training and construction experience for each person who will fill a management role on the Project, including without limitation the Project Executive, Project Engineer, Project Manager, and Project Superintendent. For each person listed, include with the other information, the last three projects on which the person worked and the name and telephone number of the design professional and the Owner. Attach a separate sheet if necessary, identifying the question number.

Name/Role	Education and Training	Project #1, Owner & A/E Contact, Telephone Number	Project #2, Owner & A/E Contact, Telephone Number	Project #3, Owner & A/E Contact, Telephone Number

Name/Role	Education and Training	Project #1, Owner & A/E Contact, Telephone Number	Project #2, Owner & A/E Contact, Telephone Number	Project #3, Owner & A/E Contact, Telephone Number

6.8 In the chart below, list construction projects your organization has in progress with an original Contract Sum of more than \$100,000.00, giving the name of project, owner and its telephone number, design professional and its telephone number, contract amount, percent complete and scheduled completion date. Attach a separate sheet if necessary, identifying the question number.

Project/Scope of Work	Contract Sum	Scheduled Completion Date	% Complete	Owner's Contact & Telephone Number	Engineer's or Architect's Representative Name & Telephone Number

Project/Scope of Work	Contract Sum	Scheduled Completion Date	% Complete	Owner's Contact & Telephone Number	Engineer's or Architect's Representative Name & Telephone Number

Additional Criteria. The Owner, in its discretion, reserves the right to request additional information and documentation relating to the foregoing and related to any of the criteria listed in the Bidding and Contract Documents after the bid opening. The Owner may consider such information and documentation in determining which bidder is the lowest responsible. The Owner, in its discretion, may consider and give such weight to any and all criteria as it deems appropriate.

Certification. The undersigned certifies for the reliance of the Owner that after diligent investigation, to the best of the undersigned's belief, the information provided with this Contractor's Qualification Statement is true, accurate and not misleading.

SIGNATURE _____

Dated at this ____ day of _____, 20__.

Name of Organization: _____

By: _____[PRINT NAME]

Signature: _____

Title: _____

_____, being duly sworn, deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading. The notarial act certified hereby is a jurat. An oath or affirmation was administered to the signer with regard to the notarial act certified to hereby.

Subscribed and sworn before me this ____ day of _____ 20__.

Notary Public

My Commission Expires: _____

SEAL

**BID GUARANTY AND
CONTRACT BOND**
(O.R.C. § 153.571)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned _____
_____, ("Contractor") as principal and _____
_____ as surety are hereby held and firmly bound unto the **Dublin City School
District Board of Education**, as obligee in the penal sum of the dollar amount of the bid submitted by the
principal to the obligee on _____, 20__, to undertake the construction of the **DCSD
Plumbing Improvements Project – Wyandot Elementary School** ("Project"). The penal sum referred to
herein shall be the dollar amount of the principal's bid to the obligee, incorporating any additive or deductive
Alternates made by the principal on the date referred to above to the obligee, which are accepted by the
obligee. In no case shall the penal sum exceed the amount of _____
Dollars (\$_____). (If the foregoing blank is not filled in, the penal sum will be the full amount of the
principal's bid, including add Alternates. Alternatively, if the blank is filled in the amount stated must not be
less than the full amount of the bid including add Alternates, in dollars and cents. A percentage is not
acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally
bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this _____ day of _____, 20__.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas the above named principal has
submitted a bid for work on the Project.

Now, therefore, if the obligee accepts the bid of the principal and the principal fails to enter into a
proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the
event the principal pays to the obligee the difference not to exceed ten percent (10%) of the penalty hereof
between the amount specified in the bid and such larger amount for which the obligee may in good faith
contract with the next lowest bidder to perform the work covered by the bid; or in the event the obligee does
not award the contract to the next lowest bidder and resubmits the project for bidding, the principal pays to
the obligee the difference not-to-exceed ten percent (10%) of the penalty hereof between the amount
specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents,
required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this
obligation shall be null and void, otherwise to remain in full force and effect; if the obligee accepts the bid
of the principal and the principal within ten (10) days after the awarding of the contract enters into a proper
contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract
is made a part of this bond the same as though set forth herein.

Now also, if the said principal shall well and faithfully do and perform the things agreed by said
principal to be done and performed according to the terms of said contract; and shall pay all lawful claims
of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying
forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall
be for the benefit of any materialman or laborer having a just claim, as well as for the obligee herein; then
this obligation shall be void; otherwise the same shall remain in full force and effect; and surety shall
indemnify the obligee against all damage suffered by failure of the principal to perform the contract
according to its provisions and in accordance with the plans, details, specifications, and bills of material
therefor and to pay all lawful claims of subcontractors, materialmen, and laborers for labor performed or
material furnished in carrying forward, performing, or completing the contract and surety further agrees and
assents that this undertaking is for the benefit of any subcontractor, materialman, or laborer having a just
claim, as well as for the obligee; it being expressly understood and agreed that the liability of the surety for
any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions in or to
the terms of the said contract or in or to the plans or specifications therefore shall in any wise affect the

BID GUARANTY AND CONTRACT BOND FORM

BGCB-1

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obligations of said surety on its bond, and does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

Signed and sealed this _____ day of _____, 20__.

PRINCIPAL

By: _____

Printed Name & Title: _____

SURETY

By: _____

Printed Name & Title: _____

Surety's Address: _____

Surety's Telephone Number: _____

Surety's Fax Number: _____

SURETY'S AGENT

Surety's Agent's Address: _____

Surety's Agent's Telephone Number: _____

Surety's Agent's Fax Number: _____

NOTE: The Contract Bond form that follows is to be used ONLY by a bidder that is awarded a contract and submits a form of bid guaranty other than the combined Bid Guaranty and Contract Bond with its bid. If a bidder submits a combined Bid Guaranty and Contract Bond, then the bid guaranty becomes the contract bond when the contract is awarded.

AIA Bid Bond or Payment and Performance Bond forms are not acceptable for this Project.

CONTRACT BOND
(O.R.C. § 153.57)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned ("Contractor"), as principal, and _____, as surety, are hereby held and firmly bound unto the **Dublin City School District Board of Education** ("Owner") as obligee, in the penal sum of _____ Dollars (\$ _____), for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas, the above-named principal did on the _____ day of _____, 20____, enter into a contract with the Owner for construction of the _____ **Project** ("Project"), which said contract is made a part of this bond the same as though set forth herein:

Now, if the said Contractor shall well and faithfully do and perform the things agreed by the Contractor to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materialman or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions in or to the terms of the said contract or in or to the plans or specifications therefore shall in any wise affect the obligations of said surety on its bond, and does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

Signed and sealed this _____ day of _____, 20____.

(PRINCIPAL)

(SURETY)

By: _____

By: _____

Printed Name & Title: _____

Printed Name & Title: _____

Surety's Address: _____

Surety's Telephone Number: _____

Surety's Fax Number: _____

NAME OF SURETY'S AGENT

Surety's Agent's Address: _____

Surety's Agent's Telephone Number: _____

Surety's Agent's Fax Number: _____



Sales and Use Tax Construction Contract Exemption Certificate

Identification of Contract:

Contractee's (owner's) name Dublin City School District Board of Education

Exact location of job/project _____

Name of job/project as it appears
on contract documentation DCSD Plumbing Improvements Project - Wyandot Elementary School

The undersigned hereby certifies that the tangible personal property purchased under this exemption certificate was purchased for incorporation into:

☐	A building used exclusively for charitable purposes by a nonprofit organization operated exclusively for charitable purposes as defined in Ohio Revised Code (R.C.) section 5739.02(B)(12);	☒	Real property that is owned, or will be accepted for ownership at the time of completion, by the United States government, its agencies, the state of Ohio or an Ohio political subdivision;
☒	Real property under a construction contract with the United States government, its agencies, the state of Ohio or an Ohio political subdivision;	☐	A computer data center entitled to exemption under R.C. 122.175;
☐	A horticulture structure or livestock structure for a person engaged in the business of horticulture or producing livestock;	☐	A building under a construction contract with an organization exempt from taxation under section 501(c)(3) of the Internal Revenue Code of 1986 when the building is to be used exclusively for the organization's exempt purposes;
☐	A house of public worship or religious education;	☐	A hospital facility entitled to exemption under R.C. section 140.08;
☐	The original construction of a sports facility under R.C. section 307.696;	☐	Building and construction materials and services sold for incorporation into real property comprising a convention center that qualifies for property tax exemption under R.C. 5709.084 (until one calendar year after the construction is completed).
☐	Real property outside this state if such materials and services, when sold to a construction contractor in the state in which the real property is located for incorporation into real property in that state, would be exempt from a tax on sales levied by that state;		

The original of this certificate must be signed by the owner/contractee and/or government official and must be retained by the prime contractor. Copies must be maintained by the owner/contractee and all subcontractors. When copies are issued to suppliers when purchasing materials, each copy must be signed by the contractor or subcontractor making the purchase.

Prime Contractor

Name _____
Signed by _____
Title _____
Street address _____
City, state, ZIP code _____
Date _____

Subcontractor

Name _____
Signed by _____
Title _____
Street address _____
City, state, ZIP code _____
Date _____

Owner/Contractee

Name Dublin City School District Board of Education
Signed by _____
Title _____
Street address 6371a Shier Rings Road
City, state, ZIP code Dublin, Ohio 43017
Date _____

Political Subdivision

Name Same as Owner/Contractee
Signed by _____
Title _____
Street address _____
City, state, ZIP code _____
Date _____



VENDOR CRIMINAL HISTORY RECORD CHECK

In adherence with the District's ongoing and continuous pursuit to ensure a safe environment for all students, staff and guests, the following procedure applies to all individuals employed by a private company engaged in services provided to the District (a "vendor").

No such individual/vendor shall be permitted to work within the District unless the vendor provides proof of the following to the Chief Operating Officer or their designee:

- 1. that the individual has been the subject of a criminal records check in accordance with R.C. 3319.39 within the last 365 days immediately prior to the date on which the person will begin working in the District; and*
- 2. that the criminal records check indicates that the individuals has not been convicted of or pleaded guilty to any offense described in R.C. 3319.39(B)(1); and*
- 3. that, if requested by the District, the criminal record has been submitted for District review and approval/denial if it indicates that the individual has been convicted of or pleaded guilty to any felony or other offence described in R.C. 2923.01-03; and*
- 4. all convictions noted on the background check will be subject to review. The Operations department has the right to request and collaboratively review all vendor background checks with the Human Resource Department. In addition to the mandatory exclusions listed above, other convictions may result in exclusion.*

Vendors shall be responsible for obtaining all criminal record checks which must be performed by an authorized/accredited agent and conducted by both the Bureau of Criminal Identification/Investigation and Federal Bureau of Investigation. A full list of locations can be found on the [Ohio Attorney General's web page](#). Vendors shall certify in writing on company letterhead the names of all individuals who will be working on District property who meet the requirements outlined above. The District reserves the right to audit background check reports to confirm legitimacy. Cleared reports need not be delivered to the District beyond aforementioned certification unless requested by the District.

The certification template provided should be sent electronically to District Operations c/o: background_check@dublinschools.net. Once the certification has been accepted, the District will notify the vendor that they have been approved to collect an identification badge from the Operations department.

Emergency work performed by a vendor who has not yet completed the criminal record check and certification process must be escorted by a Dublin City Schools employee at all times.

Additional information related to the criminal history record procedure can be found [on the District website](#).

VENDOR LOGO HERE

Vendor Name: _____

Vendor Address: _____

Vendor Contact Phone Number: _____

Vendor Contact Email: _____

Project Name: _____

Project Location(s): _____

Project DCSD Contact: _____

Estimated Project End Date: _____

VENDOR CRIMINAL HISTORY RECORD CHECK

The following employees have obtained a criminal record check in accordance with R.C 3319.39 within the last 365 days and the criminal record check indicates that the individual(s) have not been convicted of or pleaded guilty to any offense described in R.C 3319.39(B)(1) or other offense described in R.C. 2923.01-03;

Name	Date of Clearance

We understand that the District reserves the right to request and audit criminal history record check reports to confirm legitimacy.

Printed Name: _____

Date: _____

Signature: _____

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SECTION 010110 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY OF WORK

- A. Provide all Work as identified in the Contract Documents. The Work proposed in the Contract Document includes but is not limited to the following:
 - 1. Develop and maintain a detailed and comprehensive Project schedule that plans for and tracks all contract Project activities. Review and update the schedule on a regular basis in accordance with contract requirements as set forth in the General Conditions for the project.
 - 2. Provide Backflow preventer replacements and Fire Alarm modifications in Wyandot Elementary School (the building) as designated located at Dublin City School District (DCSD), as shown on the construction drawings.
- B. All Work covered by these Contract Documents, including all administrative and procedural services, are to be provided as required by the Front-End Specifications, and Division 1 Sections.
- C. Substantial Completion Date: July 31st, 2026

1.2 CONTRACTOR USE OF SITE

- A. Access
 - 1. All Work on this Project shall be consistent with the phasing and outage criteria identified on the contract drawings.
 - 2. At all times, provide the Design Professional and Owner easy and safe access to the Work site wherever it is in preparation and progress. Provide such access so the Design Professional, and Owner may perform their functions.
 - a. Building occupancy: Refer to the drawings for periods where the building can be occupied by the Contractor. Other than the forementioned dates, the building will be occupied but the Contractor may perform Work during after-hours or non-normally occupied areas (e.g. mechanical rooms). Cooperate with Owner during construction periods to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations.
 - 3. Cooperate with the Design Professional and Owner's Representative for scheduling required access and stages of Project Work to minimize conflicts and to facilitate Owner's use of the existing facility.
- B. Use of Site
 - 1. Mobilization and Laydown:
 - a. Mobilization and laydown areas will be coordinated between the Contractor and owner after contract award.

- b. The Contractor will be permitted to store limited materials on site. Coordinate exact location(s) for storage with the Owner.
2. Restroom Use:
 - a. The Contractor is not permitted to use the facility restrooms.
 - b. The Contractor shall provide their own restroom facilities as required for Contractor use.
3. Deliveries:
 - a. The Contractor shall coordinate locations and the way to receive deliveries at the building with the Owner. The Contractor must receive all deliveries. The owner will reject any attempts of vendors to deliver materials to the site when the Contractor is not present.
4. Parking:
 - a. The Contractor will be permitted to park vehicles at the Project site (no cost) in areas designated by the Owner. Vehicle parking areas for each site will be coordinated with the Owner after award.
5. Use of Water:
 - a. The Contractor may use water from hose bibs in mechanical rooms or janitors closets of the building. The Contractor shall not leave hoses connected between shifts, or when water is not actively being utilized.
 - b. Coordinate all use of facility water supply with the Owner's Representative.
6. Use of Electricity for tools and construction activity:
 - a. Use of the building's receptacles for hand tools or other such construction related activities is permissible.
 - b. Coordinate all use of facility electrical receptacles with the Owner's Representative.
7. Confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and do not unreasonably encumber the Site with any materials or equipment.

1.3 PROTECTION

- A. Take all necessary precautions and provide all necessary protection to assure that the buildings will remain weather tight, watertight, and secure during the entire construction period.
 1. Schedule and execute replacement Work to prevent exposing the building interiors to the effects of inclement weather.
 2. Cost of repair of damages to the building and its contents, including materials, equipment, and related operations, due to Contractor's inadequate precautions and protection, shall be at Contractor's expense, as set forth in the A201 General Conditions for the Project.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 010110

SUMMARY OF WORK

010110 - 2

SECTION 010390 - COORDINATION AND MEETINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Field Associating.
- C. Preconstruction meeting.
- D. Submittal Sample Review meeting.
- E. Progress meetings.
- F. Coordination and pre-installation meeting.
- G. Examination.
- H. Preparation
- I. Cutting and Patching.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify utility requirements and characteristics of operating equipment. Coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements, support, and installation of electrical Work which is indicated diagrammatically on Drawings. Follow routing shown for conduit as closely as practicable. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. Coordinate completion and cleanup of Work of separate sections in preparation for Substantial Completion.
- E. Contractor will be allowed to Work at all sites simultaneously. Contractor are to coordinate the Work with the Owner's occupied building.

1.3 FIELD ASSOCIATING

- A. Contractor to locate and protect survey control and reference points.
- B. Confirm drawing dimensions and elevations.
- C. Establish elevations, lines, and levels, utilizing recognized Associating survey practices.
- D. Record actual locations and conditions of existing and installed Work for inclusion into record drawings for the Project.

1.4 PRECONSTRUCTION MEETING

- A. Design Professional will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner's representative, Design Professional, and the Contractor.
- C. Agenda:
 - 1. Submission of insurance certificates.
 - 2. Status of required contract submittals.
 - 3. Designation of personnel representing the parties in Contract.

1.5 PROGRESS MEETINGS

- A. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems which impede planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Corrective measures to regain projected schedules.
 - 7. Planned progress during succeeding Work period.
 - 8. Coordination of projected progress.
 - 9. Maintenance of quality and Work standards.
 - 10. Effect of proposed changes on progress schedule and coordination.

1.6 COORDINATION AND PREINSTALLATION MEETING

- A. When required in individual specification sections, convene a pre-installation meeting at Work site prior to commencing Work of the section.
- B. Require attendance of parties directly affecting, or affected by, Work of the specific section.
- C. Notify the Design Professional five (5) calendar days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.

2. Review coordination with related Work.

1.7 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Examine and verify specific conditions described in individual specification sections.

END OF SECTION 010390

SECTION 010450 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.

1.2 SUBMITTALS

- A. Submit written request in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of the Owner or Separate Contractor.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Location and description of affected Work.
 - 3. Necessity for cutting or alteration.
 - 4. Description of proposed Work and Products to be used.
 - 5. Alternatives to cutting and patching.
 - 6. Effect on work of Owner or Separate Contractor.
 - 7. Written permission of affected Separate Contractor.
 - 8. Date and time Work will be executed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Primary Products: Those required for original installation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing Work, assess conditions affecting performance of Work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas that may be exposed by uncovering Work.
- C. Maintain excavations free of water.

3.3 CUTTING

- A. Execute cutting and fitting including excavation and fill to complete the Work.
- B. Remove and replace defective or non-conforming Work.
- C. Provide openings in the Work for penetration of mechanical and electrical Work.
- D. Cut rigid materials using masonry saw or core drill. Hilti or Charged (cap) tools not allowed.

3.4 PATCHING

- A. Contractor shall patch and seal all openings made or exposed by the Work on this Project. Patch and seal openings in detention cells in a secure manner that is resistant to tampering and/or concealment of contraband. Refer to Section 26 00 10 – Electrical General Requirements.
- B. Execute patching to complement adjacent Work.
- C. Fit Products together to integrate with other Work.
- D. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- E. Restore Work with new Products in accordance with requirements of Contract Documents.
- F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- G. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material to full thickness of the penetrated element.
- H. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

END OF SECTION 010450

SECTION 013000 - SUBMITTALS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed Products list.
- D. Shop Drawings.
- E. Product Data.
- F. Samples.
- G. Manufacturer's installation instructions.
- H. Manufacturers' certificates.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with the Design Professional accepted form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to the Design Professional at business address. Coordinate submission of related items.
- F. For each submittal for review, allow 14 days for the Design Professional review from the date that submittals are made available to the Design Professional to review.
- G. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- H. Provide space for Contractor's and the Design Professional's (5" x 5") review stamps.

- I. Revise and resubmit, identify all changes made since previous submission.
- J. Submittals not requested will not be recognized or processed.

1.3 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.4 SHOP DRAWINGS

- A. Submit all shop drawings electronically.
- B. The Contractor shall plan and time shop drawing submittals as appropriate to ensure that equipment can be delivered according to the requirements of the Project. Submit all required shop drawings in a timely manner for review.
- C. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.5 PRODUCT DATA

- A. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- B. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents.

1.6 MANUFACTURER INSTALLATION INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to the Design Professional in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.7 MANUFACTURER CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer to the Design Professional, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Design Professional.

END OF SECTION 013000

SECTION 013529 - HEALTH, SAFETY AND ENVIRONMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. References: In addition to publications referenced in the Construction Contract Clauses, following Code of Federal Regulations (CFR) publications designate and define hazardous materials and conditions, and establish procedures for handling these materials and conditions. Omission of any publication in this section does not remove any obligation or legal requirement on the part of the Contractor to comply with all legal requirements for the location of the Work.
 - 1. 29 CFR, Part 1910: Occupational Safety and Health Administration (OSHA) General Industry and Health Standards
 - 2. 29 CFR, Part 1926: OSHA Construction Industry Standards.
 - 3. 40 CFR, Part 61: National Emission Standards for Hazardous Air Pollutants.
 - 4. 40 CFR, Part 261: Environmental Protection Agency (EPA) Characteristics of Hazardous Waste.
 - 5. 40 CFR, Part 761: EPA Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce and Use Prohibitions
 - 6. 40 CFR, Part 763: EPA Asbestos.
 - 7. Federal Standards 313A: Material Safety Data Sheets, Preparation and the Submission of.
 - 8. NIH DES Instruction 1340-7: Precautions and Procedures for Entering Manholes or Other Below Grade Confined Spaces.
 - 9. NIH DCAB publication "Standards for Temporary Construction," March 1988.
- B. Hazardous Materials: Some hazardous and toxic materials and substances are included in 29 CFR Part 1910, subparts H and Z, and in 29 CFR Part 1926 and others additionally defined in Federal Standard 313A. Commonly encountered hazardous materials include but are not limited to asbestos, PCBs, explosives and radioactive material.
- C. Acquisition of Publications: Referenced CFR publications may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.
- D. All Contractor employees present on site must have completed OSHA's "Safety & Health Fundamentals Certificate Program for Construction".

1.2 SUBMITTALS

- A. Contractor's Safety and Health Program: The Contractor shall submit a written copy of the Company Safety and Health Program as well as the site specific safety and health plan for the Project to the Owner Representative within 14 calendar days of the Notice to Proceed or before Work commences on the Project site, whichever is earlier.

- B. Accident Reports: The Contractor must submit to the Owner Representative a written report within three calendar days of any accident, fire, emergency, theft or incident in which any personal or property damage took place, regardless of any other notifications performed. Include a copy of each accident report that is submitted by the Contractor or Subcontractors to their insurance carriers, within seven calendar days after the date of the accident.
- C. Material Safety Data Sheets (MSDS): The Contractor shall provide the Material Safety Data Sheets (MSDS's) for all products containing hazardous chemicals to the Owner Representative within 14 calendar days of the Notice to Proceed or before Work commences on the site. The MSDS's shall be maintained at the Project site for workers, Owner personnel and government officials. MSDS's for new products shall similarly be submitted to the Owner Representative and be retained at the Project site until completion of the Project.

1.3 PRECONSTRUCTION SAFETY MEETING

- A. Prior to commencing construction, representatives of the Contractor, including the general superintendent and one or more safety representatives, shall meet with the Owner Representative for the purpose of reviewing Contract safety and health requirements.
 - 1. The Contractor's Safety and Health Program and Site Specific Safety and Health Plan shall be reviewed, and implementation of safety and health provisions pertinent to the Work shall be discussed.
 - 2. The Contractor shall be prepared to discuss, in detail, the Contractor's Site Specific Safety and Health Plan including measures intended to control any unsafe or unhealthy conditions associated with the Work to be performed under the contract.
 - 3. This meeting may be held in conjunction with the preconstruction conference, if so directed by the Owner Representative. The conduct of this meeting is not contingent upon a general preconstruction meeting.
 - 4. The level of detail for the safety meeting is dependent upon the nature of the Work and the potential inherent hazards.

1.4 COMPLIANCE WITH REGULATIONS

- A. The Work, including contact with or handling of hazardous materials, disturbance or dismantling of surfaces containing hazardous materials, and disposal of hazardous materials, shall comply with the applicable requirements of 29 CFR Parts 1910 and 1926, and 40 CFR Parts 61, 261, 761 and 763.
- B. Work involving disturbance or dismantling of asbestos or asbestos containing materials, demolition of structures containing asbestos and removal of asbestos, shall comply with 40 CFR Part 61, Subparts A and M, and 40 CFR Part 763.
- C. Work shall additionally comply with all applicable state and local safety and health regulations.
- D. In case of a conflict between applicable regulations, the more stringent requirements shall apply.

- E. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable codes, standards and regulations pertaining to the health and safety of personnel during execution of the Work, and shall hold the Owner harmless for any action on the Contractor's part, or that of the Contractor's employees or subcontractors, that result in illness, injury or death.
 - 1. The Contractor shall have written safety and health programs in compliance with 29 CFR Parts 1910 and 1926.
 - 2. Inspections, Tests, and Reports: The required inspections, tests and reports made by the Contractor, subcontractors, specially trained technicians, equipment manufacturers, and others as required, shall be at the Contractor's expense.

1.5 USE OF EXPLOSIVES AND EXPLOSIVE ACTUATED FASTENING TOOLS

- A. Use of explosives shall be prohibited.
- B. Explosive actuated fastening tools (ex. nail guns, etc.) shall not be used or brought to the Project site without the permission of the Owner Representative, including a safety plan for the use of this equipment.

1.6 WORK UNDERGROUND OR IN CONFINED SPACES

- A. Work underground or in confined spaces shall comply with the NIH Division of Engineering Services Instruction Manual 1340-7, "Precautions and Procedures for Entering Manholes or Other Below Grade Confined Spaces" (DES INST 1340-7).
- B. Work shall also comply with appropriate MSHA and OSHA regulations including but not limited to 29 CFR 1910.146 and COMAR 09.12.32B.
- C. The Contractor shall properly vent manholes and remove water and debris before commencement and during execution of Work in manholes.

1.7 MATERIAL DELIVERIES

- A. Whenever practicable, deliveries shall be made during regular working hours and only when the Contractor's representative is available to receive them. Deliver material in approved containers and with properly licensed vehicles and operators. Open delivery vehicles are not permitted. Deliver materials in fully closed vehicles or tarp-covered vehicles. All dump trucks shall be fully covered while in transport to and from the unloading site. All loads shall be securely fastened until unloading. Whenever possible, engines shall not be left running while vehicles are waiting or parked. Do not block roads, walks, building entrances/exits, fire hydrants and standpipes, exterior tanks or building gas connections. Please note that acceptance of deliveries will require a Contractor employee (and one of the allotted escorts) present for the delivery.

1.8 HAZARDOUS MATERIAL

- A. The Contractor shall bring to the attention of the Design Professional and the Owner Representative, any material encountered during execution of the Work that the Contractor suspects is hazardous. The Owner Representative shall have the Office of Environmental Health and Safety perform tests to determine if the material is hazardous. The testing and disposal shall be by the Owner at no expense to the Contractor.

1.9 ADDITIONAL SAFETY REQUIREMENTS

- A. The Contractor shall post emergency first aid information at a protected location at the Work site.
- B. Lockout/Tagout and Confined Space Requirements
 - 1. No person, regardless of position or authority, shall operate any switch, valve, or equipment that has an official lockout/tag out tag attached to it, nor shall such tag be removed except as provided in this section.
 - 2. When Work is to be performed on electrical circuits, the Work shall be performed only by qualified personnel following the required safety procedures.
 - 3. Identification markings on building light and power distribution circuit breakers shall not be relied on for establishing safe Work conditions.
 - 4. Before clearance will be given on any equipment other than electrical (generally referred to as mechanical apparatus), the apparatus, valves, or systems shall be secured in a passive condition with the appropriate vents, pins, and locks.
 - 5. Pressurized or vacuum systems shall be vented to relieve differential pressure completely.
 - 6. Vent valves shall be lockout/tag out tagged open during the course of the Work.
 - 7. Where dangerous gas or fluid systems are involved, or in areas where the environment may be oxygen deficient, systems or areas shall be purged, ventilated, or otherwise made safe prior to entry.
- C. When coring or penetrating floor a safety watch shall be maintained on floor above or below.
- D. The Contractor shall maintain traffic pathways in corridors and egress pathways. There shall be no obstruction of pathways and tripping hazards. All stored material must be maintained as to not impede corridors or egress pathway. Barriers shall be installed as needed to protect residence.

1.10 PERSONNEL PROTECTIVE EQUIPMENT

- A. Special facilities, devices, equipment and similar items used by the Contractor in execution of the Work shall comply with 29 CFR, Part 1910, Subpart 1 and other applicable regulations.

PART 2 - PRODUCTS

2.1 SAFETY AND HEALTH PROGRAMS: The Contractor shall submit copies of the written site specific Project safety and health plan and emergency action procedures, as applicable to the Work scope, as required as a result of the safety meeting, or as required by OSHA 29 CFR, Part 1926 including but not necessarily limited to the procedures and programs that support the requirements of the following:

- A. Designation of Safety Competent Person
- B. Occupational Noise Exposure
- C. Fall Protection
- D. Personnel Protective Equipment
- E. Control of Hazardous Energy
- F. Hazardous Materials Waste Management Plan (draft if final plan has not been accepted)
- G. Electrical Safety Related Work Practices
- H. Lead
- I. Asbestos
- J. Respirator Protection
- K. Confined spaces
- L. Emergency evacuation and reporting
- M. Hot Work

2.2 CONTRACTOR'S SAFETY AND HEALTH PLAN:

- A. In addition to specific safety and health programs applicable to the Project, Contractor shall submit to the Owner a copy of the firms' general Safety and Health Plan listing emergency procedures and contact persons with home addresses and telephone numbers.

2.3 PERMITS

- A. If hazardous materials are disposed of off-site, submit copies of shipping manifests and permits from applicable federal, state or local authorities and disposal facilities, and submit certificates that the material has been disposed of in accordance with regulations.

PART 3 - EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK

- A. When the Contractor is notified by the Design Professional or the Owner Representative, of non-compliance with the safety or health provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe or unhealthy condition.
 - 1. If the Contractor fails to comply promptly, all or part of the Work will be stopped by notice from the Design Professional.
 - 2. When, in the opinion of and by notice given by the Design Professional and or the Owner Representative, satisfactory corrective action has been taken by the Contractor, Work shall resume.
 - 3. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a Work stoppage for an unsafe or unhealthy condition.

3.2 PROTECTION OF PERSONNEL

- A. The Contractor shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.
- B. Wherever practical, the Work area shall be fenced, barricaded or otherwise blocked off from the public or occupants to prevent unauthorized entry into the Work area.
 - 1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.
 - 2. Corridors, aisles, stairways, doors and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe or unhealthy condition to the public or occupants.
 - 3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupants by accidental shifting, ignition or other hazardous activity.
 - 4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers, and remove refuse on a frequent regular basis acceptable to the Owner Representative. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks.
- C. Alternate Precautions: When the nature of the Work prevents isolation of the Work area and the public or building occupants may be in or pass through, under or over the Work area, alternate precautions such as the posting of signs, the use of signal persons, the erection of barricades or similar protection around particularly hazardous operations shall be used as appropriate.
- D. Public Thoroughfare: When Work is to be performed over a public thoroughfare such as a sidewalk, roadway or other site access way, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. When the exposure to heavy falling objects exists, as during the erection of building walls or during demolition, special protection of the type detailed in 29 CFR, Parts 1910 and 1926 shall be provided.

3.3 ENVIRONMENTAL PROTECTION

- A. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
- B. Comply with applicable federal, state and local noise control laws, ordinances and regulations, including but not limited to 29 CFR, Part 1910.95 and 29 CFR, Part 1926.52.

END OF SECTION 013529

SECTION 014000 - QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance - control of installation.
- B. Tolerances
- C. References.
- D. Manufacturers' field services and reports.

1.2 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Design Professional before proceeding with proposed Work.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor tolerance control of installed Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Design Professional before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.4 REFERENCES

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. The contractual relationship, duties, and responsibilities of the parties in Contract nor those of the Design Professional shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.5 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of technical factory representative to Design Professional 30 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Submit report in duplicate within 7 days of observation to Design Professional for information.

END OF SECTION 014000

SECTION 016000 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 PRODUCTS

- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacture, for components being replaced.

1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions, with seals and labels intact and legible.
- B. Store sensitive Products in weather tight, climate controlled enclosures.
- C. For exterior storage of fabricated Products, place on sloped supports, above ground.

- D. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- E. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of Product.
- F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.6 SUBSTITUTIONS

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this section.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 016000

SECTION 017000 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Warranties.
- G. Spare parts and maintenance materials.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Design Professional's review.
- B. Provide submittals to Design Professional that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final Project assessment.
- B. Clean equipment and remove temporary labels, stains and foreign substances from provided equipment.
- C. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- D. Clean site; sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.4 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.5 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings in Autocad electronic format (x.dwg).
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Store record documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- E. Shop Drawings and submittal documents: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract drawings.
- F. Record Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish main floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract drawings.
- G. As-Built Drawings: Modify provided electronic drawings (bid set) to record actual construction including:
 - 1. Measured depths of foundations in relation to finish main floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and details.
 - 5. Details not on original Contract drawings.

1.6 OPERATION AND MAINTENANCE DATA

- A. Provide hard copies and electronic copies of O&M materials. Submit hard copy data bound in 8-1/2 x 11 inch text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of Project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, typed on 30 pound white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Design Professional, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system, process flow and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Certificates.
 - c. Photocopies of warranties and bonds.
- E. Submit 1 draft copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Design Professional comments. Revise content of all document sets as required prior to final submission.
- F. Submit two sets of revised final volumes, within 10 days after final inspection.

1.7 WARRANTIES

- A. Provide notarized copies.
- B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
- C. Provide Table of Contents and assemble in three D side ring binder with durable plastic cover.
- D. Submit prior to final Application for Payment.

- E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.
- F. Warranty to begin upon Project completion date.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.
- B. Deliver to Project site and place in location as directed; obtain receipt prior to final payment.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 017000

SECTION 017300 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Format and content of manuals.
- B. Instruction of Owner's personnel.
- C. Schedule of submittals.

1.2 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.3 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Design Professional, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 40 00.

1.4 MANUAL FOR MATERIALS AND FINISHES

- A. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- B. Additional Requirements: As specified in individual Product specification sections.

1.5 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- B. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- C. Include manufacturer's printed operation and maintenance instructions.
- D. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- E. Additional Requirements: As specified in individual Product specification sections.

1.6 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.

1.7 SUBMITTALS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Design Professional will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit 1 copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Design Professional comments. Revise content of all document sets as required prior to final submission.
- D. Submit one sets of revised final volumes and one Electronic CD in final form within 10 days after final inspection.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 017300

SECTION 210500 - FIRE SUPPRESSION GENERAL PROVISIONS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Scheduling of all work performed by this Contractor shall be completely coordinated with the owner's representative.
- B. All material hoisting by trade involved.
- C. Arrangements for storage of tools and material, removal of debris, and interruptions of services shall be made with the owner's representative.
- D. All piping, equipment and other material installed by this Contractor shall be located to miss all ceiling inserts, openings and sleeves for work of all trades, except where otherwise noted. This Contractor is referred to the complete construction documentation for the project available on request from the owner's representative.
- E. All connections to, or revisions in, existing piping or facilities shall be done at such time as agreed to by the owner's representative, and all work shall be scheduled as required under "General Conditions". Revisions to the existing piping systems must be done with the minimum of shutdown time. All piping shall be run to the point of new connections and new equipment installed and ready to operate before any connections are to be made.
- F. Care shall be taken to avoid interference with the Owner's operations, processes, personnel & equipment, especially in the existing portion of the building occupied by the owner & in use during construction. Consult with the owner's representative regarding any points where interference is likely to occur and follow dimensions carefully where given on the Drawings. Pay particular attention to minimum clear heights when indicated on the Drawings.
- G. Dust, dirt & debris is to be held to a minimum. This Contractor shall provide drop cloths, screens, curtains, etc., to protect the owner's operations, processes, personnel & equipment from dust, dirt & debris during the course of his work. All damage to existing elements or finishes shall be repaired by this Contractor upon removal of protective elements. All protective elements, methods & materials shall be approved by the owner's representative before any work is started in the area involved.
- H. The Contractor shall at all times keep the premises and the building in a neat and orderly condition.
- I. At the completion of the project, this Contractor shall promptly clean up and remove from the site all debris and excess materials associated with the execution of work in his contract.

1.2 SCOPE

- A. The Fire Protection Contractor shall furnish all labor, materials, tools, incidentals and details necessary to provide a complete system of Fire Protection work as herein specified, as shown on plans, and as indicated or required by work under separate contract included with complete project documentation. Coordinate installation and interface requirements with the appropriate contractors in advance.
- B. Note that work in this contract is associated with the partial remodeling/revision of an existing structure. Work in this contract shall include items/elements within the remodeled/revised area(s), as well as adjacent areas (including above and below) as necessitated for connection to and/or incorporation with existing systems. Extent of remodeling/revised work area(s) shall be as indicated by and confirmed from architectural documentation. Unless indicated otherwise, the following conditions shall apply:
 - 1. All Fire Protection Contract new supply and drain piping, and any other piped utilities as included shall connect to, and/or operate in conjunction with existing building Fire Protection systems and elements.
 - 2. When new work connects to, and/or operates in conjunction with existing building Fire Protection systems and elements, this contractor shall be responsible to provide an installation which shall operate and function properly without conflict or impairment to existing systems or elements upon completion of project. This shall include all necessary adjustments, balancing and confirmation of proper operation as required.
- C. The edition of all applicable NFPA Pamphlet's as recognized and amended by the Building Code Inspection/Approval Authority shall be the minimum requirement for all materials and methods. Unless indicated otherwise, all materials shall be listed by Underwriter's Laboratories, Inc., and Factory Mutual Laboratories as approved for fire protection installations, when such is available.
- D. Fire protection sprinkler installation to be as required to provide "fully sprinkled" protection/coverage for the entire structure.
- E. In brief, the Scope of the Work shall include, but is not limited to the following:
 - 1. Demolition of the existing two (2) check valves at the water service entrance.
 - 2. Demolition of the existing riser valve and piping immediately downstream.
 - 3. Installation of new ASSE 1048 backflow preventer at new water service entrance.
 - 4. Installation of new riser valve and piping necessary for reconnection to existing system.
 - 5. Coordination with fire alarm for new flow and tamper switches at above items.

1.3 PERMITS, INSPECTIONS AND CODES

- A. Completed installations shall conform with all applicable Federal, State and Local Laws, Codes and Ordinances, including but not limited to the latest editions of the following:
 - 1. Ohio Building Code, State of Ohio.
 - 2. Ohio Pressure Piping Systems Code, State of Ohio.
 - 3. A.S.M.E. Pressure Piping Code - Section B31.1
 - 4. National Electrical Code, Bulletin No. 70, National Fire Protection Association.
 - 5. Life Safety Code, Bulletin No. 101, National Fire Protection Association.
 - 6. NFPA pamphlet no. 13, INSTALLATION OF SPRINKLER SYSTEMS.
 - 7. NFPA pamphlet no. 72, NATIONAL FIRE ALARM CODE.

8. American National Standards Institute (ANSI) standards for materials and construction.
 9. American Society of Mechanical Engineers (ASME) standards for materials and construction.
 10. American Society for Testing and Materials (ASTM) standards for materials, construction and testing.
- B. Nothing contained in the Plans and Specifications shall be construed to conflict with these laws, codes and ordinances and they are hereby made a part of these Specifications.
- C. Completed Installations will also conform to the following Authorities:
1. Factory Mutual (FM) standards for materials and construction.
 2. The manufacturer's installation guidelines and recommendations for individual items, elements and/or systems indicated herein.
 3. The Owner's material and installation guidelines and/or standards.
 4. The Owner's insurance underwriter's material and installation guidelines and/or standards.
 5. City of Columbus Division of Water.

1.4 UTILITIES

- A. The Contractor shall investigate and locate all utilities prior to construction.
- B. Each Contractor is responsible for rerouting or replacing existing utilities where necessary to permit installation of work.
- C. Support, protection and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor. The cost of this work shall be included in the price bid for the various items.
- D. The Contractor shall alert immediately the occupants of nearby premises as to any emergency that he may create or discover on or near such premises of the underground facility, any break or leak on its lines or any dent, gouge, groove or other damage.

1.5 RECORD DOCUMENTS

- A. The Contractor shall keep an accurate record of all deviations from Contract Drawings and Specifications. He shall neatly and correctly enter in colored pencil any deviations on Drawings affected and shall keep the Drawings available for inspection. Extra sets of Drawings will be furnished for this purpose.
- B. At the completion of project and before final approval, make any final corrections to Drawings and certify to the accuracy of each print by signature and deliver same to the Architect.

1.6 SUPERVISION

- A. This Contractor shall have in charge of the work, on the job during construction, a competent superintendent experienced in the work installed under this Contract.

1.7 UNACCEPTABLE WORK AND OBSERVATION REPORTS

- A. Work shall be unacceptable when found to be defective or contrary to the Plans, Specifications, Codes specified or accepted standards of good workmanship.
- B. The Contractor shall promptly correct all work found unacceptable by the Engineer or the Owner whether observed before or after substantial completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such unacceptable work, including compensation for the Engineer's or Owner's additional services made necessary thereby.
- C. During the course of construction, the Engineer will prepare "Observation Reports" with a list of items found to be in need of correction. All items listed shall be corrected by the Contractor. A space is provided on the form for the Contractor to note the completion of each item. All prior "Observation Report" items must be completed, the lists signed and returned to the Engineer prior to making the final inspection. After the final list is issued, the same procedure will apply.

1.8 FINAL INSPECTION

- A. When the Contractor determines all work is completed and working properly per the Contract Documents, he shall request a "final" inspection by the Engineer in writing. If more than one reinspection is required after this final inspection, the Contractor shall bear all additional costs including compensation for the Engineer's additional services made necessary thereby. A final inspection will not be made until Operating and Maintenance Manuals and Air Balance Reports are submitted and approved and all prior "Observation Report" punch lists completed, signed and returned to the Engineer.
- B. As part of the final checkout of the project, the Engineer will be checking out the operation of the various systems. This Contractor shall provide such assistance as required (including manpower and tools) to start and stop the various systems, open and close valves etc. and simulate summer, winter and other temperature control sequences. The Contractor (not the Engineer) is responsible to turn on the systems and demonstrate they are operating properly.

1.9 GUARANTEE

- A. This Contractor is responsible for all defects, repairs and replacements in materials and workmanship, for a period of one (1) year after final payment is approved by Architect.

1.10 PERMITS AND FEES

- A. Unless directed otherwise by the General Conditions portion of project documentation, the Fire Protection Contractor shall apply for and pay any review, inspection, permit, license, testing and/or other service fees required by all review/inspection/approval authorities in connection with the work under this Contract.
- B. Unless directed otherwise by the General Conditions portion of project documentation, the Fire Protection Contractor shall apply for and pay any procurement, tap, capacity, metering, testing and/or other service fees required by all Utility Providers (Water, Sewer, etc.) in connection with the work under this Contract. This shall include procurement, execution and return of any forms and/or applications required; and participation in individual, initial design/installation consultations with the providers if required.
- C. The Fire Protection Contractor shall include in his Bid the cost for the water flow test required for preparation of hydraulic calculations. The flow test is to be arranged with the Water Authority by the FP contractor, performed and documented per their direction. The Owner's Representative shall be notified in advance of the test to allow the opportunity for observation. On completion of the test, copies of the documented results shall be included with the required hydraulic design calculations, and provided to the Owner's Representative for record.
- D. The Fire Protection Contractor shall include in his Bid the cost for the preparation of FP construction document layout plans and hydraulic design calculations required for review and approval.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Where items/elements are indicated herein to be listed/approved, the intent of this specification is that said item/element shall be listed by all applicable material/construction standards and subject to final approval (including methods of installation) by all review/inspection/approval authorities.
- B. Unless indicated otherwise, all Fire Protection contract items/elements (pipe, fittings, valves, specialties, fixtures, equipment, etc.) materials, construction, performance, testing and methods of installation to be as listed/approved by all applicable material/construction/installation standards for same, and be in accordance with the requirements of all review/inspection/approval authorities. This includes, but is not limited to, the standards and authorities referenced in this specification. In the absence of such standards and/or requirements, the item/element manufacturer's recommendations, as confirmed by the Fire Protection Contractor in advance, shall be followed.
- C. Unless indicated otherwise, all piping shall be in accordance with the following standards in regard to materials, construction, dimensions/tolerances, type of service/transmission medium (water, air, gas, etc.) and methods of installation (as applicable), and shall be so listed. Final approval for use is subject to the requirements of the review and inspection authorities:

1. Steel and CPVC pipe, steel, CPVC, malleable and cast iron fittings and joining methods; per applicable ASTM/ANSI/ASME standards. In addition, where utilized for potable water service, all elements shall be per applicable NSF and ASTM A53 (for carbon steel) standards.
 2. Ductile iron pipe, fittings and joining methods; per applicable ASTM/ANSI/ASME/AWWA/NSF standards.
 3. Underground plastic pipe, fittings and joining methods; per applicable ASTM/ANSI/ASME/AWWA/NSF standards.
 4. Copper/copper alloy/brass pipe/tube, fittings and joining methods; per applicable ASTM/ANSI/ASME standards. In addition, where utilized for potable water service, all elements shall be per applicable NSF standards.
- D. All items/elements shall have the manufacturer's mark or name and the quality of the product or identification of same cast, embossed, stamped or indelibly marked on each item/element in accordance with the standards under which they are accepted and approved per applicable code(s).
- E. Connections to existing building utilities shall be made with approved materials of the same type as, or listed for compatibility with, existing materials. Material types to be verified by this contractor in the field in advance of work.

PART 3 - EXECUTION

3.1 GENERAL

- A. Where standards, codes or guidelines are referenced herein and throughout the Fire Protection Contract documentation, including plans and specifications, the latest version/edition shall be applied, unless the Building Code references another version/edition, which shall take precedence.
- B. Refer to project documentation furnished with the complete construction package in advance of work for overall coordination and verification of requirements at work of other trades relating to, interfacing with, and/or impacting work in the Fire Protection Contract. This includes exact locations, quantities, physical sizes, rough-in details, pipe routing, connection sizes, etc., for items included both in the Fire Protection Contract and under separate contract. Coordinate installation and interface requirements with the appropriate contractor(s) in advance of work.
- C. Include any minor details, items and/or elements essential to necessary approvals and successful operation in addition to the items specified herein and shown on plans.
- D. Where existing items/elements are indicated to be reused as a part of new work, the Fire Protection Contractor is responsible for action required to assure that such items/elements will function properly in the completed revised setting, and be in compliance with the requirements of the review, inspection and approval authorities. This includes removal, cleaning and/or reconditioning of items/elements if required.

- E. See general "FIRE PROTECTION NOTES" on plans for additional conditions and requirements relative to the Fire Protection Contract.
- F. Fire Protection items and elements shall be installed with due regard to preservation of the strength of structural members and prevention of damage to walls, surfaces and other structures through installation, bearing support or subsequent usage of Fire Protection items and elements. No framing or other support structure shall be cut, notched or bored in excess of limitations specified in the Building Code, or by the manufacturer of the framing or other support structure, as confirmed in advance of work by the Fire Protection Contractor.

END OF SECTION 21 05 00

SECTION 210523 - GENERAL-DUTY VALVES FOR FIRE PROTECTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gate valves.

1.2 DEFINITIONS

- A. CWP: Cold working pressure.
- B. EPDM: Ethylene propylene copolymer rubber.
- C. NPS: Nominal Pipe Size
- D. OS&Y: Outside screw and yoke.

1.3 SUBMITTALS

- A. Product Data: For each type of valve indicated, include: Body, seating and trim materials; valve design; pressure and temperature classifications; end connections, arrangements; dimensions and required clearances. Submit pressure drop curves for no-slam check valves. Include a list indicating valve type and its piping system application. Include rated capacities; shipping and operating weights and furnished specialties and accessories.
- B. Contract Closeout Information:
1. Valve chart indicating valve identification number, valve type, service, manufacturer and model number, and location of valve.
 2. Operating and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.
1. Grooved end valves shall be of the same manufacturer as adjoining couplings.
- B. ASME Compliance:
1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
 2. ASME B31.1 for power piping valves.

3. ASME B31.9 for building services piping valves.
- C. ASTM Compliance:
 1. ASTM B61 for 200 psi and 300 psi valves with metallic seats.
- D. Factory test all valve bodies, shells and seats per MSS requirements at a minimum.
- E. Valve Stems: ASTM B371, Alloy C69400; ASTM B371, Alloy C65100H04 (rolled silicon brass); or other material equally resistant to dezincification.
- F. Valve Bypass and Drain Connections: MSS SP-45.
- G. Pressure casting shall be free of impregnating materials, no welding of iron allowed.
- H. Manufacturer's name or trademark and working pressure stamped or cast into body.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Prepare valves for shipping as follows:
 1. Protect internal parts against rust and corrosion.
 2. Protect threads, flange faces, grooved ends, and weld ends.
 3. Set gate and globe valves closed to prevent rattling.
 4. Set ball valves open to minimize exposure of functional surfaces.
 5. Set butterfly valves closed or slightly open.
 6. Block check valves in either closed or open position.
- B. Use the following precautions during storage:
 1. Maintain valve end protection.
 2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.
- C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following. Where a specific manufacturer is listed in the Drawings, this shall be considered the Basis-of-Design.
- B. Gate Valves:
 1. Milwaukee, Hammond, Crane or Flowserve.

2.2 GENERAL REQUIREMENTS FOR VALVES

- A. UL Listed: Valves shall be listed in UL's "Online Certifications Directory" under the headings listed below and shall bear UL mark:
 - 1. Main Level: HAMV - Fire Main Equipment.
 - a. Level 1: HCBZ - Indicator Posts, Gate Valve.
 - b. Level 1: HLOT - Valves.
 - 1) Level 3: HMRZ - Gate Valves.
- B. Source Limitations for Valves: Obtain valves for each valve type from single manufacturer.
- C. ASME Compliance:
 - 1. ASME B16.1 for flanges on iron valves.
 - 2. ASME B1.20.1 for threads for threaded-end valves.
 - 3. ASME B31.9 for building services piping valves.
- D. AWWA Compliance: Comply with AWWA C606 for grooved-end connections.
- E. NFPA Compliance: Comply with NFPA 24 for valves.
- F. Valve Pressure Ratings: Not less than the minimum pressure rating indicated or higher as required by system pressures.
- G. Valve Sizes: Same as upstream piping unless otherwise indicated.
- H. Valve Actuator Types:
 - 1. Handwheel: For other than quarter-turn trim and drain valves.

2.3 BRONZE OS&Y GATE VALVES

- A. Description:
 - 1. Standard: UL 262 and FM Global standard for fire-service water control valves (OS&Y- and NRS-type gate valves).
 - 2. Minimum Pressure Rating: 175 psig.
 - 3. Body and Bonnet Material: Bronze or brass.
 - 4. Wedge: One-piece bronze or brass.
 - 5. Wedge Seat: Bronze.
 - 6. Stem: Bronze or brass.
 - 7. Packing: Non-asbestos PTFE.
 - 8. Supervisory Switch: External.
 - 9. End Connections: Threaded.

2.4 IRON OS&Y GATE VALVES

A. Description:

1. Standard: UL 262 and FM Global standard for fire-service water control valves (OS&Y- and NRS-type gate valves).
2. Minimum Pressure Rating: 175 psig.
3. Body and Bonnet Material: Cast or ductile iron.
4. Wedge: Cast or ductile iron, or bronze with elastomeric coating.
5. Wedge Seat: Cast or ductile iron, or bronze with elastomeric coating.
6. Stem: Brass or bronze.
7. Packing: Non-asbestos PTFE.
8. Supervisory Switch: External.
9. End Connections: Flanged, Grooved or Threaded.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
- C. Examine threads on valve and mating pipe for form and cleanliness.
- D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.
- E. Do not attempt to repair defective valves; replace with new valves.
- F. Examine grooved ends for form and cleanliness. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove.

3.2 GENERAL REQUIREMENTS FOR VALVE INSTALLATION

- A. Comply with requirements in the following Sections for specific valve installation requirements and applications:
 1. Section 211313 "Wet-Pipe Sprinkler Systems" for application of valves in wet-pipe, fire-suppression sprinkler systems.
- B. Install listed fire-protection shutoff valves supervised-open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.

- C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.
- D. Install valves having threaded connections with unions at each piece of equipment arranged to allow easy access, service, maintenance, and equipment removal without system shutdown. Provide separate support where necessary.
- E. Install valves in horizontal piping with stem at or above the pipe center.
- F. Install valves in position to allow full stem movement.
- G. Install valve tags. Comply with requirements in the NFPA standard applying to the piping system in which valves are installed. Install permanent identification signs indicating the portion of system controlled by each valve.
- H. Install listed fire-protection shutoff valves supervised-open, located to control sources of water supply except from fire-department connections.
- I. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.

END OF SECTION 210523

SECTION 211313 - WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pipes, fittings, and specialties.
 - 2. Fire-protection valves.
 - 3. Alarm devices.
 - 4. Backflow Preventer.
 - 5. Pressure gages.

1.2 DEFINITIONS

- A. High-Pressure Sprinkler Piping: Wet-pipe sprinkler system piping designed to operate at working pressure higher than standard 175 psig, but not higher than 250 psig.
- B. Standard-Pressure Sprinkler Piping: Wet-pipe sprinkler system piping designed to operate at working pressure of 175 psig maximum.

1.3 SYSTEM DESCRIPTIONS

- A. Wet-Pipe Sprinkler System: Automatic sprinklers are attached to piping containing water and that is connected to water supply through alarm valve. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device. Hose connections are included if indicated.

1.4 PERFORMANCE REQUIREMENTS

- A. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.
- B. Delegated Design: Design sprinkler system(s), including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
 - 1. Contractor to perform a flow test and utilize results of flow test for system design.
- C. Sprinkler system design shall be reviewed and approved by the design Fire Protection Engineer before being submitted for approval by authorities having jurisdiction.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Shop Drawings: For wet-pipe sprinkler systems. Include plans, elevations, sections, details, and attachments to other work. Also include diagrams for power, signal, and control wiring.
- C. Delegated-Design Submittal: For sprinkler systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Coordination Drawings: Sprinkler systems, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Domestic water piping.
- E. Qualification Data: For qualified Installer and NICET designer.
- F. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, for approval by the design fire protection engineer before sending for approval by authorities having jurisdiction, including hydraulic calculations if applicable. Identify sprinkler heads by the same designations used in their agency approval documents.
- G. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."
- H. Field quality-control reports.
- I. Operation and Maintenance Data: For sprinkler specialties to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems. Base calculations on results of fire-hydrant flow test. Design shall be signed by a NICET Level III or IV and for review by the design FPE.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. NFPA Standards: Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the following:
 - 1. NFPA 13, "Installation of Sprinkler Systems."
 - 2. NFPA 24, "Installation of Private Fire Service Mains and Their Appurtenances."

- D. Grooved Products: If grooved products are used, provide couplings, fittings, valves, and specialties from a single manufacturer.

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Sprinkler Service: Do not interrupt sprinkler service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary sprinkler service according to requirements indicated:
 - 1. Notify Architect and/or Owner no fewer than five days in advance of proposed interruption of sprinkler service.
 - 2. Do not proceed with interruption of sprinkler service without Architect's and/or Owner's written permission.

1.8 COORDINATION

- A. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

2.2 STEEL PIPE AND FITTINGS

- A. Schedule 40, Black-Steel Pipe: ASTM A 53/A 53M, Type E, Grade B. Pipe ends may be factory or field formed to match joining method.
- B. Schedule 10, Black-Steel Pipe: ASTM A 135 or ASTM A 795/A 795M, Schedule 10 in NPS 5 and smaller; and NFPA 13-specified wall thickness in NPS 6 to NPS 10, plain end.
- C. Malleable- or Ductile-Iron Unions: UL 860.
- D. Cast-Iron Flanges: ASME 16.1, Class 125.
- E. Steel Flanges and Flanged Fittings: ASME B16.5, Class 150.
- F. Steel Welding Fittings: ASTM A 234/A 234M and ASME B16.9.
- G. Grooved-Joint, Steel-Pipe Appurtenances:
 - 1. Pressure Rating: 175 psig minimum.

2. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213, rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber center-leg gasket with pipe stop, and ASTM A449 bolts and nuts.
 - a. Rigid Type: Housings cast with offsetting angle-pattern bolt pads for rigidity and support. Basis of Design: Victaulic 107N.
 - b. Flexible Type: Where vibration attenuation or stress relief are required. Basis of Design: Victaulic 77 or 177.

2.3 PIPING JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch thick or ASME B16.21, nonmetallic and asbestos free.
 1. Class 125, Cast-Iron Flanges and Class 150, Bronze Flat-Face Flanges: Full-face gaskets.
 2. Class 250, Cast-Iron Flanges and Class 300, Steel Raised-Face Flanges: Ring-type gaskets.
- B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.
- C. Grooved-Joint Lubricants: Lubricant approved for the gasket elastomer and fluid media by the grooved-joint coupling manufacturer.
- D. Plastic, Pipe-Flange Gasket, and Bolts and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.

2.4 LISTED FIRE-PROTECTION VALVES

- A. Alarm Valves:
 1. Standard: UL 193.
 2. Design: For horizontal or vertical installation. Valve internal components replaceable without removing valve from piping.
 3. Include trim sets for bypass, drain, electrical sprinkler alarm switch, pressure gages and fill-line attachment with strainer.
 4. Drip Cup Assembly: Pipe drain without valves and separate from main drain piping.
 5. Drip Cup Assembly: Pipe drain with check valve to main drain piping.

2.5 SPRINKLER SPECIALTY PIPE FITTINGS

- A. Flow Detection, Test, and Drain Assemblies:
 1. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing.
 2. Pressure Rating: 175 psig minimum.
 3. Body Material: Bronze or ductile-iron housing with orifice, sight glass, and integral test valve.
 4. Size: Same as connected piping.

5. Inlet and Outlet: Threaded or grooved ends.

2.6 ALARM DEVICES

- A. Alarm-device types shall match piping and equipment connections.
- B. Electrically Operated Alarm Bell:
 1. Standard: UL 464.
 2. Type: Vibrating, metal alarm bell.
 3. Size: 8-inch minimum- diameter.
 4. Finish: Red-enamel factory finish, suitable for outdoor use.
- C. Water-Flow Indicators:
 1. Standard: UL 346.
 2. Water-Flow Detector: Electrically supervised.
 3. Components: Two single-pole, double-throw circuit switches for isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.
 4. Type: Paddle operated.
 5. Pressure Rating: .
 6. Design Installation: Horizontal or vertical.
- D. Valve Supervisory Switches:
 1. Standard: UL 346.
 2. Type: Electrically supervised.
 3. Components: Single-pole, double-throw switch with normally closed contacts.
 4. Design: Signals that controlled valve is in other than fully open position.
- E. Indicator-Post Supervisory Switches:
 1. Standard: UL 346.
 2. Type: Electrically supervised.
 3. Components: Single-pole, double-throw switch with normally closed contacts.
 4. Design: Signals that controlled indicator-post valve is in other than fully open position.

2.7 BACKFLOW PREVENTERS

- A. Double-Check, Detector-Assembly Backflow Preventers:
 1. Standards: ASSE 1048 and UL's "Fire Protection Equipment Directory" listing or FM Global's "Approval Guide."
 2. Operation: Continuous-pressure applications.
 3. Pressure Loss: maximum, through middle one-third of flow range.
 4. Size: As required per contract documents.

5. Body Material: Cast iron with interior lining complying with AWWA C550 or that is FDA approved.
 6. End Connections: Flanged.
 7. Configuration: Designed for horizontal, straight through flow.
 8. Accessories:
 - a. Valves: UL 262 and FM Global's "Approval Guide" listing; OS&Y gate type with flanged ends on inlet and outlet.
 - b. Bypass: With displacement-type water meter, shutoff valves, and reduced-pressure backflow preventer.
- B. Backflow Preventer Test Kits:
1. Description: Factory calibrated, with gages, fittings, hoses, and carrying case with test-procedure instructions.

2.8 PRESSURE GAGES

- A. Standard: UL 393.
- B. Dial Size: 3-1/2- to 4-1/2-inch diameter.
- C. Pressure Gage Range: 0 to 250 psig minimum. Provide pressure
- D. Water System Piping Gage: Include "WATER" or "AIR/WATER" label on dial face.
- E. Air System Piping Gage: Include retard feature and "AIR" or "AIR/WATER" label on dial face.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Perform fire-hydrant flow test according to NFPA 13 and NFPA 291. Use results for system design calculations required in "Quality Assurance" Article.
- B. Report test results promptly and in writing.

3.2 SERVICE-ENTRANCE PIPING

- A. Connect sprinkler piping to water-service piping for service entrance to building.
- B. Install shutoff valve, backflow preventer, pressure gage, drain, and other accessories indicated at connection to water-service piping.
- C. Install shutoff valve, check valve, pressure gage, and drain at connection to water service.

3.3 BACKFLOW PREVENTER INSTALLATION

- A. Install backflow preventers of type, size, and capacity indicated. Include valves and test cocks. Install according to requirements of plumbing and health department and authorities having jurisdiction.
- B. Do not install backflow preventers that have relief drain in spaces subject to flooding.
- C. Do not install bypass piping around backflow preventers.

3.4 PIPING INSTALLATION

- A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.
 - 1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.
- B. Piping Standard: Comply with requirements for installation of sprinkler piping in NFPA 13.
- C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
- D. Install unions adjacent to each valve in pipes and smaller.
- E. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having and larger end connections.
- F. Install sprinkler piping with drains for complete system drainage.
- G. Install alarm devices in piping systems.
- H. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.
- I. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gages with connection not less than and with soft metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal, and install where they will not be subject to freezing.
- J. Fill sprinkler system piping with water.

3.5 JOINT CONSTRUCTION

- A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.

- B. Install unions adjacent to each valve in pipes NPS 2 and smaller.
- C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.
- D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.
- G. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- H. Steel-Piping, Pressure-Sealed Joints: Join lightwall steel pipe and steel pressure-seal fittings with tools recommended by fitting manufacturer.
- I. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts in accordance with the manufacturer's published instructions. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints. Grooved-joint coupling manufacturer to provide factory-trained field representative for on-site training for contractor's personnel in proper grooved-joint item fabrication and installation procedures. Representative shall periodically visit job site to ensure best practices in grooved product installation are being followed. Contractor shall remove and replace any improperly installed products.
- J. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts in accordance with the manufacturer's published instructions. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints. Grooved-joint coupling manufacturer to provide factory-trained field representative for on-site training for contractor's personnel in proper grooved-joint item fabrication and installation procedures. Representative shall periodically visit job site to ensure best practices in grooved product installation are being followed. Contractor shall remove and replace any improperly installed products.
- K. Steel-Piping, Pressure-Sealed Joints: Join Schedule 5 steel pipe and steel pressure-seal fittings with tools recommended by fitting manufacturer.
- L. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

3.6 VALVE AND SPECIALTIES INSTALLATION

- A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.
- B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.
- C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.
- D. Specialty Valves:
 - 1. General Requirements: Install in vertical position for proper direction of flow, in main supply to system.
 - 2. Alarm Valves: Include bypass check valve and retarding chamber drain-line connection.
 - 3. Deluge Valves: Install in vertical position, in proper direction of flow, and in main supply to deluge system. Install trim sets for drain, priming level, alarm connections, ball drip valves, pressure gages, priming chamber attachment, and fill-line attachment.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
 - 4. Energize circuits to electrical equipment and devices.
 - 5. Coordinate with fire-alarm tests. Operate as required.
 - 6. Verify that equipment hose threads are same as local fire-department equipment.
- C. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.8 PIPING SCHEDULE

- A. Standard-pressure, wet-pipe sprinkler system, NPS 2-1/2 and larger, shall be one of the following:
 - 1. Standard-weight, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.

2. Standard-weight, black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.
3. Schedule 10, black-steel pipe with roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

END OF SECTION 211313

SECTION 220500 - PLUMBING GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following:
 - 1. General requirements applicable to all Plumbing work.
 - 2. Submittal process.
 - 3. Requests for information/interpretation (RFIs)
 - 4. Coordination and fabrication drawings.
 - 5. Operation and maintenance manuals.
 - 6. As-built and record drawings.
 - 7. Maintenance materials, spare parts, and filters.
 - 8. Access doors and panels.
 - 9. Owner training.

1.2 SUBMITTALS

- A. Action submittals:
 - 1. Coordination and fabrication drawings.
- B. Informational submittals:
 - 1. Proposed equipment and material list.
 - 2. List of service providers for all proposed equipment.
 - 3. Construction schedule.
 - 4. Substantial completion maintenance requirements.
 - 5. System and equipment start-up reports/checklists.
- C. Closeout submittals:
 - 1. Operation and maintenance manuals.
 - 2. As-built drawings.

1.3 WORK INCLUDED

- A. Contractor shall comply with the entire set of construction documents (drawings and specifications) for all divisions/trades. Contractor shall pay close attention to additional requirements that may be listed in the general conditions on the architectural drawings and in the Division 01 front-end specifications. It is the contractor's responsibility prior to bids to review all construction documents.
- B. Carefully examine the construction documents, visit the site, and thoroughly become familiar with the local conditions relating to the work. Failure to do so will not relieve the contractor of any obligations of the contract.

- C. In case of clarifications or discrepancies, the contractor shall promptly notify the Architect/Engineer (A/E) in writing for final determination prior to the bid. If determination from the A/E is not provided, the contractor shall include the highest cost option in their bid price.
- D. Provide all materials, equipment, fees, and permits to perform all the labor required to install complete and operable systems as stated, implied, or intended in the drawings and specifications. Include in the bid as part of the contract, all necessary and applicable supplies, materials, and appurtenances, whether indicated or not.
- E. The drawings show the principal engineering design elements of the Plumbing installation. They are not intended to be detailed construction installation drawings for the Plumbing work but as a complement to the specifications to clarify the principal features of the Plumbing systems. It is the intent of this section that all equipment and devices, furnished and installed under this and other sections, be properly connected and interconnected with other equipment to render the installation complete for successful operation, regardless of whether all the connections and interconnections are specifically mentioned in the contract specifications or shown on the contract drawings.
- F. Check the layout and routing as indicated on the drawings for all Plumbing work. Determine exact locations and layouts using the dimensions of the equipment approved. Obtain written approval from the A/E for any revised layout before equipment or material involved is installed. Consult the architectural and structural drawings for all dimensions, locations, and sizes of structure, structural supports, foundations, ceiling heights, door swings, and other detail information required for a correct installation of this work.
- G. Examine all other divisions/trades of the contract documents for work related to the work of this division/trade. Cooperate to provide continuity of work, to eliminate duplications, and to provide mechanical work in support of such related work. Furnish to other trades and on schedule all information required for the execution of mechanical work.
- H. Any additional work such as cutting, drilling, patching, excavations, moving of another trade's work because of delay in Plumbing work, lack of information, or lack of coordination is a part of this division/trade and shall be performed without additional cost to others.
- I. Install and connect devices and equipment in accordance with the best engineering practice and the manufacturer's instructions and recommendations. Provide all incidental piping, valves, connections, and all similar material recommended by the manufacturer, or required for proper operation and maintenance without additional cost to others.
- J. All control wiring associated with the Plumbing systems shall be provided by this division/trade. All wiring shall comply with Division 26 standards.

1.4 SPECIFIED ELSEWHERE

- A. The following will be provided by other divisions/trades:
 - 1. Openings: Walls, floor, ceiling and roof openings specifically shown and identified on the architectural/structural drawings will be provided by those associated divisions/trades.

Openings not identified that are required for Plumbing work, or changes to such openings, are part of the work of this mechanical division/trade.

2. Roof penetrations: Curbs, drains, sleeves, and other roof penetrations under this division/trade shall be incorporated into the finished roofing and made watertight under another division/trade, unless otherwise specified.
3. Equipment bases: Coordinate and furnish dimensions, sleeves, inserts, hold-down bolts, and templates for their installation. Supervise their installation. Concrete equipment bases, mounting slabs, and housekeeping pads not shown on the structural drawings shall be provided under this division/trade.
4. Painting: Painting of all exposed-to-view pipes, valves, hangers, supports, equipment, etc. shall be performed under another division/trade. This division/trade is responsible for making all Plumbing exposed-to-view items paint ready. Under this division/trade, all manufactured equipment shall be furnished with factory-finished baked enamel, unless otherwise specified.
5. Power wiring: All power wiring associated with equipment provided under this division/trade shall be furnished, installed, and wired in accordance with Division 26. Under this division/trade, provide installation instructions, locating dimensions, and wiring diagrams for the other divisions/trades. Supervise the installation.

1.5 DEFINITIONS

- A. Provide: Furnish, install, and connect complete so that the particular item referred to is ready for operation/use.
- B. Furnish: To purchase, procure, acquire, and deliver complete with related accessories.
- C. Install: To erect, mount, and connect complete so that the particular item referred to is ready for operation/use.
- D. Work: Labor, materials, equipment, apparatus, controls, accessories, and other items required for proper and complete installation.
- E. Concealed: Work installed out of sight in spaces. Embedded in masonry or other construction, or installed in furred spaces, above ceilings, in trenches, in crawl spaces, or in enclosures.
- F. Exposed: Work installed in view in spaces. Not installed underground, above a ceiling, or concealed as defined above.
- G. Interior: Inside the thermal barrier of the building. Not subject to outdoor ambient temperatures and conditions.
- H. Exterior: Outside of the thermal barrier of the building. Subject to outdoor ambient temperatures and conditions.
- I. Accessible: Capable of being reached, used, adjusted, removed, and maintained without removal of other non-operable items.

1.6 CODES AND STANDARDS

- A. All work shall be performed in accordance and comply with all laws, regulations, insurance carrier requirements, codes, and standards (federal, state, and local) as adopted by the authorities having jurisdiction, where any differ, the most stringent shall apply. Nothing in the construction documents shall be construed to permit deviation from the governing laws, regulations, insurance carrier requirements, codes, and standards (federal, state, and local).
- B. Applicable publications: Reference made to codes and standards refer to the latest edition including all addenda/revisions existing on the date of execution of the contract, unless noted otherwise.

1.7 BIDDING

- A. Design alternates (if applicable): Contractors are to state, within the forms of their bid proposals, the total labor and material price (including mark-ups) to be added to or deducted from the base bid amount for each of the alternates indicated herein or within the bid form or instructions to bidders, that the owner may or may not decide to accept.
- B. Unit pricing (if applicable): Contractors are to state, within the forms of their bid proposals, the total labor and material unit price (including mark-ups) to be added to or deducted from the base bid amount on a unit-by-unit basis during the construction period of the project, that takes place before final inspection or date of acceptance review. Unit costs shall include all work required, including controls, wiring, and interlocks, to install complete and operable systems. See bid form or instruction to bidders regarding these unit cost items.

1.8 DIVISION OF WORK

- A. The A/E does not define the scope of individual divisions/trades, subcontractors, equipment manufacturers, material suppliers, and vendors. Any sheet numbering or specification numbering system used which identifies disciplines is solely for the A/E's convenience and is not intended to define a subcontractor's scope of work. Information regarding individual trades, subcontractors, material suppliers and vendors may be detailed, described, and indicated at different locations throughout the contract documents. No consideration will be given to requests for change orders for failure to obtain and review the complete set of construction documents when preparing bids, prices, and quotations. Unless stated otherwise, the subdivision and assignment of work under the various sections shall be the responsibility of the contractor holding the prime contract.

1.9 PERMITS AND INSPECTIONS

- A. Obtain and pay for all permits, bonds, licenses, fees, etc. required by the federal, state, and local authority having jurisdiction over the work.

- B. Arrange and pay for inspections required by the federal, state, and local authority having jurisdiction. Conceal no work until approved by these governing authorities. Provide properly signed certificates of final inspection to owner prior to owner's final acceptance of the work.
- C. Obtain and pay for all meters, instruments, devices, etc. required for permits and inspections.

1.10 QUALITY ASSURANCE

- A. Plumbing systems shall be safe, reliable, efficient, durable, easily and safely operable and maintainable, easily and safely accessible, and in compliance with applicable codes and standards.
- B. The Plumbing contractor must have documented experience on at least two building projects with a similar scope of work within the last 5 years. The Plumbing contractor must have sufficient general knowledge and experience to anticipate the needs for construction of this nature.
- C. All mechanical contractors and personnel shall be experienced and qualified specialists in Plumbing and all work must be properly supervised.
- D. All materials furnished shall be new and shall comply with all applicable standards. All materials or work found to be defective, damaged, or not in strict conformity with the construction documents shall be rejected and shall be removed and replaced by the contractor at no additional cost to the owner. Contractor is responsible for any damage caused by them to other contractor's work.
- E. Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design, and workmanship. Standard products must have been in satisfactory commercial or industrial use for at least two years, unless noted otherwise. This timeframe of use must include applications of equipment and materials under similar circumstances and of similar size.
- F. All equipment must be supported by service providers or service direct from the manufacturer. See individual equipment specification sections for further requirements. Service providers shall be authorized and trained by the manufacturers of the equipment supplied. These service providers must be reasonably convenient (within 2 hour drive) to the equipment installation location and able to render satisfactory service to the equipment on a regular and emergency basis. Contractor must submit to the A/E a list of service providers for all their proposed equipment prior to any equipment or material submittals. This list shall include the name of the service provider, address, the distance from the jobsite, phone number, and email address.
- G. Contractor shall visit the site of the work to gain an acceptable knowledge of conditions affecting the execution of the work. After visiting the site, request information and/or clarifications as necessary to fully understand the work required and to properly estimate costs.
- H. All welding personnel shall be certified by the American Welding Society (AWS). All welding shall comply with the associated latest version of the ANSI/AWS code.

1.11 SUBMITTAL PROCESS

- A. Contractor shall submit under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.
- B. Part 1 of each specification section of the construction documents lists the associated submittals that are required to be submitted to the A/E. The contractor must submit one combined submittal per specification section that includes all materials and equipment that are required to be submitted per that associated section. The A/E will not review piecemeal submittals or submittals that are grouped together with an item from a different specification section, and if submitted they will be processed as “does not conform.” The contractor must clearly indicate for each item submitted the specification section/sub-section number.
- C. Within 45 calendar days after date of contract agreement and prior to any other submittals, the contractor shall submit to the A/E a list of all items of equipment and material proposed for installation on this project. This list must include all equipment and materials that require a submittal. Provide the specification section/sub-section number, manufacturer’s name, manufacturer representative, model number, size, and any other information required to identify each item.
- D. Definitions:
 - 1. Action submittal: Written information that requires the A/E’s responsive action. Materials and equipment submitted shall meet all the requirements of the construction documents. No materials or equipment shall be ordered until the submittal has been reviewed and processed as “reviewed for compliance” or “conforms as noted.”
 - 2. Informational submittal: Written information that does not require the A/E’s review or processing. This information is submitted for record purposes only. It is the contractor’s responsibility to make sure materials and equipment comply with the construction documents prior to ordering. If the A/E or others choose to review, the submittal may be rejected for non-compliance with the construction documents.
 - 3. Closeout submittal: Written information required at the end of construction in order for final owner acceptance and project closeout. This information requires the A/E’s responsive action to verify the required information was provided.
 - 4. Reviewed for compliance: The submittal was reviewed for compliance by the A/E and the submittal was found to generally conform with the design concept and construction documents.
 - 5. Conforms as noted: The submittal was reviewed for compliance by the A/E and the submittal was found to generally conform with the design concept and construction documents with exception to the item(s) noted. The item(s) noted by the A/E must be changed and/or included, however, the submittal should not be resubmitted.
 - 6. Revise and resubmit: The submittal was reviewed for compliance by the A/E and the submittal did not conform with the design concept and construction documents. The items noted by the A/E must be changed or included and the submittal must be resubmitted.
 - 7. Does not conform: The submittal was reviewed for compliance by the A/E and the submittal did not conform with the design concept and construction documents. The items noted by the A/E must be corrected and a new submittal is required.

- E. Submittals reviewed by the A/E shall not take precedence over the construction documents. The review of submittals by the A/E does not relieve the contractor from their responsibility to comply with the construction documents nor does it authorize any additional cost. The contractor remains responsible for complying with all information shown on the construction documents including performance data, electrical characteristics, dimensional data including required clearances, features, specified options, details, quantities, and for all coordination of the work with all other trades. A/E review is not to be construed as a complete check of every requirement in the construction documents.
- F. Submittals shall identify the manufacturer, specific model number, performance data, electrical characteristics, dimensional data including required clearances, features, specified options, wiring diagrams, warranty information, and any other information necessary to determine if the product or equipment conforms with the construction documents. The contractor shall submit only material applicable for the project, shall identify the specific items, and shall clearly indicate all options that apply.
- G. Unless noted otherwise, when two or more units of materials or equipment of the same type or class are required, these units shall be of the same manufacturer and model number, or if different models are required, they shall be of the same manufacturer and identical to the greatest extent possible (example: same model series).
- H. Although basis of design models and manufacturers are indicated in the construction documents, it is the responsibility of the manufacturers to verify the model selections so that the equipment complies with all listed requirements of the construction documents. If issues are found, the contractor shall inform the A/E for direction.
- I. All submittals shall bear the contractor's certification that they have reviewed, checked, and approved the submittal, that they have been coordinated with the requirements of the project and the provisions of the construction documents, and that they have verified all field measurements and construction criteria, materials, catalog numbers, and similar data. Submittals without a contractor approval will not be reviewed and will be processed as "does not conform."
- J. Submittals shall not contain conflicting information. If a submittal is found to be conflicting, the submittal will be processed without further review as "does not conform." If a submittal is processed as "reviewed for compliance" or "conforms as noted" and conflicting information is found after the fact, it is the contractor's responsibility to correct all items so all material and equipment complies with the construction documents at no cost to the owner.
- K. Items that are submitted but are not required to be submitted by part 1 of the associated specification section, will not be reviewed and will be returned as "does not conform" noting the issue.
- L. Contractor shall submit electronic files of all submittals as a single PDF file per specification section. File size shall be less than 20MB and the file shall be named starting with the specification number and end with the submittal revision number. Electronic submittals shall be emailed to submittals@aecmep.com and the AEC project manager. Include in the subject of the email the project name as listed on contract and the specification section number. Other means of file transmission such as FTP or through construction management software websites

shall be mutually agreed upon. Contractor must provide a title page for each submittal containing the following information:

1. Project name as listed on contract.
2. Project location.
3. Specification section number and title.
4. Material or equipment specified.
5. Date.
6. Submittal revision number.
7. Name of contractor and individual with contact information.
8. Name of firm and individual with contact information for entity that prepared the submittal.

- M. Electronic copies of the construction documents are available from the A/E for contractor's use in preparing submittals. Revit models shall be in the version in which they are created.
- N. Do not purchase material/equipment, begin fabrication, or start work that requires an action submittal until the submittal is processed as "reviewed for compliance" or "conforms as noted" by the A/E.
- O. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow time for long lead equipment and potential resubmittals. No delay cost or time extensions will be allowed for time lost in late submittals or resubmittals.
- P. Processing time: Allow 10 full business days, not including weekends or holidays for engineer review of each submittal and resubmittal. Time for review shall commence on engineer's receipt of the electronic copy of the submittal, and ends once the submittal is returned electronically to the architect, contractor, construction manager, or any other party of record.
- Q. Contractor shall coordinate transmittal of different types of submittals for related parts of the work so processing will not be delayed because of the need to review submittals concurrently for coordination. The engineer's processing time of the submittal does not begin until all required related submittals are received. Allow additional time if processing must be delayed to permit coordination with subsequent submittals.

1.12 ACCEPTABLE MANUFACTURERS AND SUBSTITUTIONS

- A. The products and equipment scheduled on the construction documents are basis of design. Where more than one manufacturer is listed, the contractor may use any of the acceptable manufacturers as the basis of their bids unless otherwise specified.
- B. Just because an acceptable manufacturer is listed, does not infer conformity of all construction document requirements, nor waive requirements thereof. The contractor and the manufacturer are responsible for verifying and complying with all construction document requirements.
- C. The construction documents showing the layout, arrangement, sizes, performance characteristics, weights, dimensions, electrical characteristics, and principal connections to the

equipment are based on one particular piece of equipment which is the basis of design. If equipment other than the basis of design is used, it is the contractor's sole responsibility to coordinate and make all necessary modifications to the design and installation as a result of the change and ensure all modifications do not cause work delays. Example: Physical size, piping, ductwork, power characteristics, utility connections, structure and supports, architecture, etc. All necessary modifications include the modifications required not only for their work, but also the work of all other divisions/trades affected. The cost of making all the modifications shall be borne by this contractor without extra cost to any other party. The contractor shall also make arrangements with the other divisions/trades for such modifications and compensate them accordingly. In using such equipment, it is imperative that the equipment must fit the space and the access allotted, with the final layout to be approved by the A/E. Follow the construction documents as closely as actual building construction allows.

- D. Contractors and manufacturers may submit to the A/E additional proposed acceptable manufacturers not listed but meeting the construction documents for A/E approval and subsequent inclusion into the bidding documents. Submission must be received no later than 10 working days before bid date and before the final addendum. If approved, such manufacturers will be listed in an addendum. Submission must include performance data, electrical characteristics, dimensional data including required clearances, features, specified options, wiring diagrams, and any other information necessary to determine if the product or equipment will conform with the construction documents.
- E. Contractor shall submit product substitutions after bid date under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply. Any request for substitution to a manufacturer other than the specified acceptable manufacturers must be submitted to the A/E in writing and shall include an adequate description of proposed change, reason(s) for requesting change, cost adjustment information, performance data, electrical characteristics, dimensional data including required clearances, features, specified options, wiring diagrams, and any other information necessary to determine if the product or equipment conforms with the construction documents. Substitutions not submitted in this manner will be rejected. Substitution requests will only be considered for the following reasons:
 - 1. Alternate product is of equal quality, but better value with savings offered to the owner.
 - 2. Specified manufacturer(s) is no longer in business.
 - 3. Specified product(s) cannot be delivered within the required project schedule.

1.13 REQUESTS FOR INFORMATION/INTERPRETATION (RFIs)

- A. Contractor shall submit RFIs under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.
- B. Contractor shall carefully examine the entire set of construction documents (drawings and specifications) for all divisions/trades, review all applicable federal/state/local codes and standards, and perform field measurements on site. Immediately on discovery of the need for additional information, clarification, or interpretation of the construction documents due to any perceived ambiguity, conflict, error, omission, interference, discrepancy, or unforeseen condition, the contractor shall promptly prepare and submit an RFI and receive a response prior to proceeding with work.

- C. Contractor shall coordinate and submit RFIs in a prompt manner to avoid delays in their work or work of subcontractors and to not delay the construction schedule while allowing the full A/E response time. Contractor shall limit topics on each RFI to a single topic to expedite response. If more than a single topic is covered in an RFI the contractor accepts full responsibility for any and all cost or schedule delays if RFI is not answered in a timely manner. The contractor shall also be responsible for any and all cost or schedule delays from the necessity to resubmit an RFI due to insufficient or incorrect information presented in the original RFI.
- D. RFIs must be submitted by a contractor who is in contract directly with the owner. RFIs submitted directly by other entities controlled by the contractor, including but not limited, to equipment manufacturers, subcontractors, material suppliers, vendors, etc. will be returned with no response. The submitting contractor must perform a thorough review of the construction documents and all issues related prior to submitting an RFI.
- E. Contractor shall not submit RFIs related to means and methods, request for substitution, taking place of an action submittal, sequences of construction, lack of contractor coordination, or division of work among individual divisions/trades, subcontractors, equipment manufacturers, material suppliers, and vendors. Such issues are solely the contractor's responsibility and RFIs will be returned with no response.
- F. Any additional information, clarification, or interpretation of the construction documents made by anyone other than the A/E, or in any manner other than through the formal RFI submittal process, shall not be binding and the contractor shall not rely upon it.
- G. Content of the RFI: Include a detailed, legible description of item needing additional information, clarification, or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Date.
 - 4. Name of contractor.
 - 5. Name of architect.
 - 6. RFI number, numbered sequentially.
 - 7. RFI subject.
 - 8. Specification section number, title, and related paragraphs, as appropriate.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Field dimensions and conditions, as appropriate.
 - 11. Contractor suggested resolution(s). If contractor's suggested resolution impacts the contract time or the contract sum, the contractor shall state the impact in the RFI.
 - 12. Contractor's signature.
 - 13. Attachments: Include drawings/sketches, descriptions, measurements, photos, product data, shop drawings, coordination drawings, and other information necessary to fully describe items. Supplementary drawings prepared by the contractor shall include dimensions, floor level, rooms numbers, and structural grid references. Attachments shall be electronic files in PDF format.
- H. RFIs shall be submitted electronically using the project's web-based construction management software. If the project doesn't use a web-based construction management software, then RFIs can be emailed directly to the Advanced Engineering Consultant's (AEC's) project manager.

- I. Response time: A/E will review each RFI, determine action required, and respond. Allow seven working days for A/E response for each RFI. RFIs received by A/E after 1:00pm will be considered as received the following workday. A/E's action may include a request for additional information, in which case A/E's time for response will date from time of receipt of additional information.
- J. RFI log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly and when requested by owner or A/E. Include the following:
 - 1. Project name.
 - 2. Name of contractor.
 - 3. Name of architect.
 - 4. RFI number including RFIs that were dropped and not submitted.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date A/E's response was received.
 - 8. Identification of related minor change in the work, construction change directive, and proposal request, as appropriate.
 - 9. Identification of related field order, work change directive, and proposal request, as appropriate.
- K. On receipt of A/E's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify A/E within seven days if contractor disagrees with response.

1.14 COORDINATION AND FABRICATION DRAWINGS

- A. Construction documents for Plumbing work are schematic in nature and are intended to convey scope and general arrangement only. Work shall be installed from the coordination and fabrication drawings which are fully coordinated, contractor generated, dimensioned drawings.
- B. Contractor shall prepare coordination and fabrication drawings. Prepare layout drawings of all systems of the construction documents including plumbing, industrial/medical gas, fire protection, HVAC, electrical, technology, fire alarm, controls, etc. All existing systems that are in the same area of new work must also be shown. Include completely dimensioned plans drawn to scale showing all equipment and distribution. Show above finished floor elevations for all items shown and where necessary provide sections. Provide reference dimensions to columns, walls, slabs, beams, and to components of other systems and work of other trades as necessary. Account for all insulation, jacketing, supports, hangers, bracing, inserts, sleeves, penetrations, etc for all systems. All items that require maintenance or adjustment must be installed in accessible locations and all required access/service clearances must be shown and must be clear of obstructions. Floor plans shall be drawn at not less than 1/4-inch scale. One set of coordination and fabrication drawings shall be provided showing all trades on a single plan for coordination verification with each division/trade shown as a different color and a second set of drawings shall be provided for each division/trade individually for layout verification and for help with clarity. The coordination and fabrication drawings when completed must contain dated sign off signatures for each discipline/trade contractor and then they are required to be submitted to A/E. Tracing or reproduction of the construction documents is not acceptable.

- C. Contactor cannot begin fabrication or install any work until the coordination and fabrication drawing submittal is processed as “reviewed for compliance” or “conforms as noted”. Failure to follow this requirement may result in the fabricated or installed work to be revised or removed at the cost of the contractor. Contractors using the first to install method in lieu of coordination will not be tolerated.

1.15 OPERATION AND MAINTENANCE MANUALS

- A. Contractor shall submit operation and maintenance (O&M) manuals under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.
- B. Compile and assemble the operation and maintenance data for equipment listed in the equipment schedules or when specified in Part 1 of each specification section of the construction documents. Submit for Division 22 a separate set of new vinyl covered standard three ring binders along with an electronic (PDF) version. The manuals shall be tabulated and indexed (hard copy and electronic version) in accordance with the project specification numbering system and a table of contents shall be provided.
- C. The following items shall be included in the manuals:
 - 1. Each manual shall be labeled on the front cover with project name, contract, contractor’s name, contractor’s contact info, A/E, and date of substantial completion.
 - 2. All final action, information, and closeout submittals.
 - 3. Operating instructions, start-up, and shut down procedures.
 - 4. Equipment error codes and troubleshooting instructions.
 - 5. Manufacturer’s equipment testing and adjusting instructions.
 - 6. Maintenance instructions: Routine/preventative maintenance requirements and maintenance intervals.
 - 7. Part list and reordering information.
 - 8. List of recommended replacement parts (belts, filters, lubricants, etc.) for keeping in stock, including sources for purchase, and ordering information.
 - 9. Warranty information: Contractor’s warranty and manufacturer’s warranty information. Warranty information shall include warranty start date, duration/end date, and contact information/procedures for filing a claim and obtaining warranty services.
 - 10. Permit, inspection, and final inspection certificates.
 - 11. Owner training videos
- D. Items that are larger than letter size paper shall be folded and punched for insertion in a manner that allows them to be unfolded without removing them from the manual with all information legible where possible.
- E. Manuals shall only include equipment that is provided for this project and all model numbers, options, and accessories shall be clearly indicated. Items that do not apply must be crossed out.

1.16 AS-BUILT AND RECORD DRAWINGS

- A. Contractor shall submit as-built drawings under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.

- B. Definitions:
 - 1. As-built drawings: Drawings that are marked up in the field to reflect the actual installation conditions and all changes to the original construction documents. Typically, these mark ups are made using red ink directly on a hard copy set of the original construction documents. However, they can also be a set of the contractor's fabrication drawings as long as all field changes and install conditions are incorporated.
 - 2. Record drawings: The original construction documents that have been electronically revised to incorporate all addenda, post-bid bulletins, design revisions and as-built drawing differences.
- C. Contractor is to maintain as-built drawings for all existing services uncovered during construction (if applicable) and all new services being installed. As-built drawings shall be maintained in the field and shall capture the actual installation conditions and all changes to the original construction documents. These changes include but are not limited to plans, sections, elevations, details, routing, invert elevations, dimensions, quantities, sizing, controls, final location and arrangement of equipment, etc. At the completion of construction, the contractor shall submit the as-built drawings as an electronic (PDF) version to the A/E.
- D. The A/E will use the contractor's as-built drawings to create record drawings for the owner (unless specifically excluded from scope of work/contract). Record drawings are the record of the project as constructed based on information the contractor provides. It is important to note that the A/E does not confirm or verify the accuracy or completeness of the contractor's as-built drawings in the field. Since the record drawings are based on information by others, the A/E shall have no liability or responsibility for the accuracy of the information contained in such record drawings.

1.17 DELIVERY, STORAGE, HANDLING

- A. Equipment and material on the job site or in storage shall remain in the custody of the contractor until final owner acceptance, whether or not the owner has reimbursed the contractor for the equipment or material.
- B. Handle, store, and protect products carefully to prevent damage and theft before, during, and after installation. The contractor is solely responsible for the protection of their equipment and material against damage or theft. Do not install damaged items and if damaged, replace them with new items. If approved by the A/E and owner, items with minor damage may be repaired and installed.
- C. Where feasible, arrange for product delivery when construction has progressed enough to allow the products to be installed in their final location. When not feasible, minimize product storage on site as much as possible and store products protected from weather, physical damage, dust, debris, and moisture. Do not allow any materials or equipment to be stored in standing water or exposed to the elements. Store all plastics and electronics protected from direct sunlight.
- D. Deliver equipment and piping with factory applied end caps. Maintain end caps through shipping, storage, and handling to prevent end damage and entrance of dust, debris, and moisture.

- E. All electronic/powered equipment shall be covered in plastic until the environment/site is free of construction dust, debris, and moisture. Large equipment if shipped on open trailer trucks shall be covered with shrink on plastics or waterproof tarpaulins that provide protection from exposure to rain, road salts, and other transit hazards. Protection shall be kept in place until equipment is moved into the building and installed.
- F. Keep systems drained and free of standing water to prevent freezing and growth of bacteria, microorganisms, viruses, parasites, and fungi.
- G. All insulation, filters, and other items that can absorb water must be kept free from moisture at all times. If items absorb water, the items shall not be installed and if installed, they must be removed and replaced at the contractor's expense.
- H. At the time of rough installation and during storage, all equipment, pipe, and other distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable for protection to reduce the amount of dust, debris, and moisture which may collect in the system(s). Any item not protected shall be cleaned or replaced at the contractor's expense.

1.18 WARRANTY

- A. Contractor shall provide warranties under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.
- B. Contractor shall provide equipment and materials that have the required manufacturer's warranties that are listed in each individual specification section.
- C. In addition to the manufacturer's warranties, the contractor shall provide a warranty for all work they provide, they perform, and that is covered by the construction documents. The warranty shall cover work performed by the contractor and any subcontractor, supplier, vendor, etc at any tier. Contractor shall warrant all Plumbing systems, equipment, materials, design furnished, and workmanship to conform to the construction documents and be free from any defect for a period of 1 year from the date of substantial completion of work.
- D. The contractor's warranty with respect to work repaired or replaced during the warranty period will run for an additional 1 year from the date of repair or replacement.
- E. During the warranty period, the contractor shall remedy without delay, at the contractor's expense, and without interference with the owner's operation (when possible), any failure to conform to the construction documents or any defect. In addition, the contractor shall remedy at the contractor's expense any damage to the owner owned or controlled real or personal property, when that damage is the result of the contractor's failure to conform to the construction documents or any defect.
- F. The contractor is also responsible during the warranty period for making adjustments to ensure operation of the various systems in accordance with the intent of the contract documents.

- G. If the contractor fails to adjust or remedy any failure, defect, or damage within a reasonable time after receipt of notice, the owner shall have the right to adjust, replace, repair, or otherwise remedy the failure, defect, or damage at the contractor's expense.
- H. Contractor shall obtain all warranties, require all warranties be executed in writing, and enforce all warranties for the benefit of the owner.
- I. Contractor is responsible to perform a mandatory walk through/final inspection with the owner at 10 months after the date of substantial completion of work to ensure all equipment and material are performing as required. Contractor's failure to perform the mandatory walk through at the 10 month time period from the date of substantial completion shall extend the contractor's warranty period to ensure the owner has a remaining two months of contractor warranty remaining after the mandatory walk through. If the owner chooses to decline the mandatory walk through, the warranty period extension shall not apply.

1.19 PROJECT CLOSEOUT & INSPECTIONS

- A. Contractor shall closeout project under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.
- B. Definitions:
 - 1. Substantial completion: The stage in progress of the work when the construction is sufficiently complete, in accordance with the construction documents, so that the owner has full and unrestricted use and benefit of the facility for the use for which it is intended. Incidental corrective or punch list work may still need to be completed. Seasonal functional performance testing/commissioning will still need to be completed (if applicable). This date is established with a certificate of substantial completion and it starts the warranty period.
 - 2. Final completion: The work is fully and finally complete in accordance with the construction documents. All incidental corrective and punch list work has been completed. As-builts and operation and maintenance manuals have been submitted by the contractor. Commissioning activities are complete and commissioning issues have been resolved. The owner, A/E, and contractor agree that all the requirements of the construction documents have been fully completed.
 - 3. Final inspection: A final walk through with the owner, contractor, construction manager, and A/E to verify final completion so that final owner acceptance can occur.
 - 4. Final owner acceptance: The written acceptance issued to the contractor by the owner after the contractor has completed the requirements of the construction documents. At this point the contractor is entitled to receive the remaining funds owned.
- C. The construction progress and the contractor's accuracy in following the construction documents will be periodically checked and inspected by the A/E (unless specifically excluded from scope of work/contract). The contractor shall be responsible for notifying the A/E at least two weeks in advance when any work to be covered up/concealed is ready for inspection. No work shall be covered up/concealed until approved by the A/E. If work is covered up/concealed without A/E approval, the contractor may be responsible for uncovering/un-concealing and recovering/reconcealing at no additional cost to the owner so that the work can be inspected.

PART 2 - PRODUCTS

2.1 EQUIPMENT SUPPLIED BY THIS CONTRACTOR

- A. All materials, equipment, seals, bearings, packings, accessories, and piping specialties shall be suitable for the continuous operational temperatures, pressures, and characteristics of the system they serve.
- B. Install equipment, materials, etc. in strict accordance with the manufacturer's recommendations and direction. Provide straight inlet and outlet pipes based on equipment manufacturer's recommendations. Contractor shall also be responsible for start-up per manufacturer's recommendations of all equipment and systems installed, modified, or revised. If in conflict with the construction documents, advise the A/E in writing prior to installation for clarification.
- C. Contractor furnishing an item of equipment is responsible for the proper handling, setting, installation, start-up, adjustment, and initial operation. If contractor is unfamiliar with the proper start-up and adjustment procedure of any equipment or system they furnish, they shall include the services of a qualified representative of the manufacturer or vendor to provide start-up assistance and for instruction of the owner's personnel.
- D. Equipment and components of equipment shall bear manufacturer's name, trademark, model number, serial number, and performance data on a nameplate securely affixed in a conspicuous place, or cast integral with, stamped or otherwise permanently marked upon the components of the equipment.

2.2 OWNER FURNISHED EQUIPMENT

- A. The owner will furnish the equipment and materials that are noted as such on the construction documents (if applicable). The contractor shall cooperate and coordinate with the owner in establishing the required delivery date(s) and these dates shall be designated in the contractor's construction schedule. The contractor shall review equipment shop drawings, product data, and manufacturer's installation instructions provided by the owner and manufacturer. If conflicts with the construction documents, discrepancies, or anticipated problems are found, notify the owner and A/E for direction. Owner furnished equipment may be contractor installed, contractor connected, or owner installed. Contractor shall assume all equipment noted as owner furnished is contractor installed unless noted otherwise in the construction documents.
- B. Owner furnished and contractor installed: The contractor is responsible for receiving, unloading, handling, setting/installing the equipment in place, making any required system/utility connections, and disposal of shipping/packing materials for owner furnished items. The owner and contractor shall jointly inspect items for damage upon delivery to the project site. If this inspection determines that owner furnished items are damaged, the owner will arrange for the necessary replacement or repairs. The contractor is responsible for protecting owner furnished items, upon receipt from owner and while in their possession, from damage during storage and handling and is responsible for damage caused to owner furnished items.

- C. Owner furnished and contractor connected: The contractor is responsible for making any required system/utility connections. The owner will arrange for delivery, unloading, handling setting/installing the equipment in place, and disposal of shipping/packing materials. The contractor is responsible for protecting owner furnished items from damage after the equipment is set/installed in place and is responsible for damage.
- D. Owner furnished and owner installed: The owner will arrange for delivery, unloading, handling, setting/installing the equipment in place, making any required system/utility connections, and disposal of shipping/packing materials for owner furnished items.

2.3 EQUIPMENT TURNED OVER TO OWNER

- A. The contractor shall remove, salvage, and turn over to the owner the equipment and materials that are noted as such on the construction documents (if applicable) as to not affect its reuse. The contractor shall disconnect, cap services/utility connections, remove equipment, clean equipment, pack/protect for delivery, and deliver to the owner. The owner and contractor shall jointly inspect items for damage prior to removal and shall document condition with photography. Once items are delivered to owner, the owner and contractor shall jointly inspect items for damage and shall document condition with photography. The contractor shall cooperate and coordinate with the owner in establishing the inspection and delivery dates. The contractor is responsible for protecting items turned over to the owner from damage during removal, handling, and delivery and is responsible for all damage.

2.4 EQUIPMENT TO BE REMOVED AND REINSTALLED

- A. The contractor shall remove and reinstall the equipment and materials that are noted as such on the construction documents (if applicable) as to not affect its reuse. The contractor shall disconnect, cap services/utility connections, remove equipment, clean equipment, pack/protect for storage, store, reinstall, reconnect, and make operational. The contractor is responsible for protecting removed and reinstalled items from damage during removal, handling, storage, and reinstall and is responsible for all damage.

2.5 PLENUMS

- A. Contractor is responsible for ensuring all materials installed within plenums are code compliant. When code requires, the materials listed in other specification sections, or the materials specified within this section differ, the most stringent requirements shall apply.
- B. Definitions:
 - 1. Plenum: An enclosed portion of the building structure, other than an occupiable space being conditioned, that is designed to allow air movement, and thereby serve as part of an air distribution system.
 - 2. Occupiable space: An enclosed space intended for human activities, excluding those spaces intended primarily for other purposes, such as storage rooms and equipment rooms, that are only intended to be occupied occasionally and for short periods of time.

- C. Materials within plenums shall be noncombustible or shall be listed and labeled as having a flame spread index of not more than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723.

2.6 MAINTENANCE MATERIALS & SPARE PARTS

- A. Contractor is responsible for the continued maintenance of all equipment furnished until the date of substantial completion of work. At that time, the contractor must submit to the A/E and owner the substantial completion maintenance requirements for all equipment which includes the following:
 - 1. The date the equipment arrived on site, installation date, start-up date, and all the dates maintenance (filters changes, lubrication, etc.) occurred with details of the specific maintenance task.
 - 2. A list including dates of all maintenance that the owner will need to complete during the warranty period.
 - 3. Manufacturer's equipment testing and adjusting instructions.
 - 4. Maintenance instructions: Routine/preventative maintenance requirements and maintenance intervals.
 - 5. Part list and reordering information.
 - 6. List of recommended replacement parts for keeping in stock, including sources for purchase, and ordering information.
- B. At substantial completion, the contractor shall furnish to the owner any special tools, keys, and instrumentation that may be required for the proper servicing, maintenance, disassembly, adjustment, or routine testing of all equipment provided. All tools and instrumentation shall be clearly labeled to indicate associated equipment and usage.
- C. Contractor shall provide all spare and replacement parts that will be necessary for all equipment during the warranty period.

2.7 ACCESS DOORS AND PANELS

- A. Contractor is to provide all access doors and panels required for non-accessible surfaces (such as ceilings, walls, chases, etc.) so that all equipment, devices, and items that require maintenance, servicing, adjustment, or inspection are accessible whether shown or not on the plans. Access doors and panels for ceiling, walls, chases, and other architectural surfaces are to be installed by the general contractor (unless noted otherwise). Each contractor whose item or device requires the access door or panel shall bear the cost and shall be responsible for coordinating the location and size.
- B. Minimum access door and panel size shall be 12 inch by 12 inch for any item that requires only one hand to maintain, service, adjust, or inspect and 24 inch by 24 inch for any item that requires two hands to maintain, service, adjust, or inspect. Access door and panel size shall be increased as required to allow item to be easily maintained, serviced, adjusted, and inspected. Access door and panel finish shall match finish in which installed.

- C. Access door and panels installed in rated walls or assemblies shall be rated as required to maintain rating of assembly. Rated access doors shall bear UL label.

PART 3 - EXECUTION

3.1 SAFETY PRECAUTIONS DURING INSTALLATION

- A. Contractor shall take all measures to ensure safe installation of all work and to prevent injury to persons or damage to property in compliance with the Occupational Safety and Health Administration (OSHA) and all applicable regulations.
- B. Contractor shall erect scaffolds, platforms, supports, or other required construction to safely protect their own workers and other persons on site. Such items shall be designed and constructed by the contractor who shall be solely responsible for their adequacy and safety. A/E, owner, or user is not responsible for ascertaining the adequacy of any temporary structures used or erected by the contractor.
- C. For renovation and/or demolition work (if applicable), the contractor is hereby advised that it is possible that asbestos, lead based paints, and/or other hazardous materials are or were present in this building(s). Any worker, occupant, visitor, etc., who encounters any material of whose content they are not certain shall promptly report the existence and location of that material to the owner. Furthermore, the contractor shall ensure that no one comes near to or in contact with any such material, fumes, or dust until its content can be ascertained to be non-hazardous. The engineer has no expertise in the determination of the presence of any hazardous material. Therefore, no attempt has been made by the engineer to identify the existence or location of any such hazardous material. Furthermore, the engineer nor any affiliate hereof will not offer or make any recommendations relative to the removal, handling, or disposal of such material. If the work which is to be performed interfaces, connects, or relates in any physical way with or to existing components which contain or bear any hazardous material, then it shall be the contractor's sole responsibility to contact the owner and so advise the owner immediately. The contractor, by execution of the contract for any work and/or by the accomplishment of any work, thereby agree to bring no claim relative to other such item against the engineer, its principles, employees, agents, or consultants. Also, the contractor further agrees to defend, indemnify, and hold the engineer, its principals, employees, agents, and consultants harmless from any such related claims which may be brought by any subcontractors, suppliers, or any other third parties.

3.2 EXAMINATION OF SITE AND FIELD MEASUREMENTS

- A. Construction documents for Plumbing work are schematic in nature and are intended to convey scope and general arrangement only. Exact locations and dimensions shall be determined by the contractor by examining the site, performing field measurements, and through the coordination and fabrication drawing process. Work shall be installed from the coordination and fabrication drawings which are fully coordinated, contractor generated, dimensioned drawings.

- B. Contractor shall base all measurements, both horizontal and vertical, from established benchmarks. All work shall agree with these established lines and levels. Contractor must verify all measurements at the site prior, during, and after installation for accuracy. Should the contractor discover any discrepancy between actual measurements and those indicated which prevents following good practice and the intent of the construction documents, notify the A/E for direction and do not proceed with work until direction is provided.
- C. To aid in construction document clarity, all existing systems may not be shown. Field verify all sizes and locations of existing piping, equipment, etc. Notify A/E of deviations which affect renovation work prior to proceeding with the work.

3.3 INTERRUPTIONS AND TIE-INS

- A. Review all construction documents to verify the extent and scheduling of all demolition/renovation (if applicable), and new work activities prior to commencing work.
- B. Ensure that the work will not interfere or interrupt services to areas outside of the designated contract areas. Schedule all work as to cause minimal service interruptions for the owner. Unavoidable interruptions are to be scheduled with the owner no less than two weeks prior to their expected commencement. Work shall be performed at such times as directed by the owner and, if possible, are to occur during off hours or off peak periods.
- C. The contractor is to verify the exact service of any existing piping prior to installing any new connections. Any discrepancies between the construction documents or the design intent and actual conditions are to be brought to the attention of the engineer immediately, prior to fabrication or installation.
- D. Do not interrupt utilities or systems serving facilities occupied or partially occupied unless specifically allowed under the following conditions:
 - 1. Notify owner in advance of proposed utility or system interruptions. Identify extent and duration of utility or system interruptions and method of interruptions in detail.
 - 2. Do not proceed with proposed utility or system interruptions without owner's permission.
 - 3. Provide temporary utility or system services and connections as required.
 - 4. Once utility or system operation is restored, remove temporary utility or system services. Provide necessary blind flanges and caps to seal temporary connections.

3.4 PHASING

- A. All work is to be phased as indicated on the construction documents (if applicable). Contractor shall coordinate phasing of all demolition, renovation, and new work with other trades. It shall be the contractor's responsibility to coordinate and phase all tie-ins and interruptions of existing services to minimize or eliminate downtime. Closely coordinate phasing of work within corridors with the owner. Corridors may not be able to be completely closed off to pedestrian traffic. To accommodate phasing, corridor access work may need to be performed during off peak periods. Prior to moving on to the next phase, all work in previously phased areas must be complete and operational. The contractor shall install all new services and equipment and have them tested, fully functional, and reliably functional prior to interrupting, relocating, or

removing any existing services. It shall be the contractor's responsibility to bare any and all costs associated with this phasing, including temporary services, temporary relocation, premium time work, etc.

3.5 SCHEDULING

- A. Contractor shall develop and maintain a construction schedule under provisions of Division 01 and as specified within this section. The most stringent requirements shall apply.
- B. Contractor shall coordinate and work with the construction manager, all contractors, manufacturers, vendors, commissioning agent, owner, A/E, and all other parties to develop a coordinated construction schedule. The construction schedule shall be a meticulously crafted timeline of activities, sequencing, milestones, and deliverables that make up the construction project. The construction schedule shall address durations, dependencies, lead times, the submittal process, the coordination process, start dates, completion dates, inspections, procurement, fabrication, delivery, and all work required as part of the construction process and it shall be broken down per task per contractor. Once construction begins, the schedule is a living document that continues to get updated and tracked.
- C. The coordinated construction schedule after being developed must contain dated sign off signatures for each discipline/trade contractor and then it is required to be submitted to A/E and owner.

3.6 COOPERATION AND COORDINATION BETWEEN DISCIPLINES/TRADES

- A. Contractor shall cooperate with all other disciplines/trades to provide the owner with a completed project on schedule.
- B. Coordinate the exact requirements, location, and clearances of work with the work of other trades prior to fabrication and installation. Provide additional offsets and sections in piping required to meet the applicable job condition requirements. Verify job site elevations, dimensions, and conditions, prior to fabrication or installation of the work. Coordinate exact routing of piping with other trades so that no conflicts occur with ductwork, piping, lights, structure, etc. Provide all pertinent data concerning the location, dimensions, etc., of the mechanical equipment that require bases, curbs, and supports to the appropriate trades. Work not appropriately coordinated shall be removed and properly installed at the expense of the responsible contractor(s).
- C. Coordinate installation of supporting devices, sleeves, and openings in cast-in-place concrete and other structural components as they are constructed. Coordinate weights, forces, and anchors with structural contractor.
- D. Contractor to coordinate between the equipment suppliers, controls contractor, and electrical contractor as to which control and electrical (starters, disconnects, etc.) devices are supplied with equipment in lieu of being contractor provided.

- E. Contractor to coordinate between controls contractor and electrical contractor all control panel locations, control system power requirements, transformers, etc.
- F. Coordinate access door and panel sizes and locations required for non-accessible surfaces.
- G. Coordinate temporary construction and dust barriers with other divisions/trades.
- H. Prior to ordering any materials or rough-in of any kind, the Plumbing contractor shall be responsible for final coordination of all electrical requirements (i.e. voltage, phase, circuit breaker, wire sizing, etc.) with the electrical contractor. There will be no change in the contract amount for any discrepancies.

3.7 GENERAL ROUTING OF WORK

- A. Construction documents for Plumbing work are schematic in nature and are intended to convey scope and general arrangement only. The construction documents are also not intended to show every vertical and horizontal offset that may be necessary to complete the system or clear obstructions or the work of the other divisions/trades. All offsets, turns, fittings, trim, detail, etc., may not be indicated, but shall be provided as required. Install piping neatly along walls and/or in horizontal groups and maintain required slopes. Work shall be installed from the coordination and fabrication drawings which are fully coordinated, contractor generated, dimensioned drawings.
- B. Coordinate new installations with existing installations (if applicable) which will remain in place and either be reutilized or be abandoned in place. Provide transitions and fittings in piping as well as extra lengths of piping as required to route around existing installations.
- C. All items that require maintenance, observation, inspection, cleaning, calibration, or adjustment must be installed in accessible locations with proper clearances maintained. Where possible install in locations that are accessible from floor level. Provide appropriately sized access doors as required at no additional cost to others whether shown or not on the plans, for access and maintenance. In general, contractor shall maximize clearance around all equipment as much as possible. The minimum clearance provided shall be the greater of the manufacturer's recommended clearance, the clearance shown on the construction documents, or the NFPA 70 / NEC (electrical components) required clearance. If clearances appear inadequate, notify the A/E for direction and do not proceed with work until direction is provided.
- D. Where ceilings are indicated, all pipes, and wiring shall be routed above ceiling, unless noted otherwise. In exposed conditions, install piping, and wiring tight to the bottom of structure unless noted otherwise. In general, install all items to provide the maximum possible headroom, unless noted otherwise. All exposed wiring shall be run in conduit. Install items above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install all equipment, piping, etc. straight and direct as possible, generally forming right angles with, or running parallel with, walls or adjacent piping, etc. All piping, etc. shall be neatly spaced with risers and drops running plumb and true. Where pipes, etc. are purposely pitched/slopped or required to be pitched/slopped for drainage or venting, an accurate grade shall be

maintained. All items shall be supported in such a manner as to prevent sags, bends, and deflection sufficient to avoid pocketing.

- F. Run piping, etc. in wall chases, shafts, hung ceilings, recesses, etc. where provided. Do not run in floor slab fill unless specifically noted on the construction documents. No work shall be covered up/concealed until inspected and approved by the A/E.
- G. Provide a minimum stand off distance of 1 inch between the outer surface of all items to avoid items from touching, vibrating, expanding, and rubbing against each other. The outer surface of an insulated item is the outer surface of the insulation jacketing. Install all items with enough stand off distance to allow application of insulation without compression.
- H. Connect all equipment for ease of disconnecting and removing with minimum interference to other installations.
- I. All supports for equipment and piping systems, and devices shall be from the building structure. Support from structural bridging is unacceptable. Supports shall be in accordance with latest ANSI and SMACNA standards.
- J. Provide shut-off valves within all supply piping branch takeoffs from mains. Provide a manual balance valve and a separate shut-off valve within all return piping branch take-offs from mains. Locate valves in accessible locations.
- K. Install all piping in locations and elevations such that coils, tubes, and filters can be removed and replaced without major piping removal. Locate valves in appropriate places to accommodate maintenance. For gravity flow piping, adequate slope shall be provided.
- L. Do not install piping, equipment, etc., in a location or in a manner that will allow freezing and/or the collection of condensation.
- M. Contractor is responsible for draining, flushing, purging, and filling all piping systems as required and any additional isolation valves, drain valves, or air vents required to do so shall be provided.
- N. Firestop and seal watertight all floor penetrations and all rated wall penetrations. The annular space around the penetrating pipe shall be protected with an approved noncombustible material that resists the free passage of flame and the products of combustion. Refer to architectural drawings for locations and type of fire and/or smoke rated building elements. All work shall be routed to minimize floor penetrations and rated wall penetrations.

3.8 ROUTING OF WORK IN ELECTRICAL ROOMS, TELECOM ROOMS, AND STAIRWELLS

- A. Electrical and telecom rooms: No Plumbing work shall be routed in or through an electrical or telecom room unless the Plumbing work serves the room. No condensate drain pans and associated condensate piping, shall be installed above any electrical panels, electrical equipment, or telecom racks/servers. In general, contractor shall maximize clearance around all equipment as much as possible. The minimum clearance provided shall be the greater of the manufacturer's recommended clearance, the clearance shown on the construction documents,

or the NFPA 70 / NEC (electrical components) required clearance. If clearances appear inadequate, notify the A/E for direction and do not proceed with work until direction is provided.

- B. Stairwells: Per code, no Plumbing work shall be routed in or through a stairwell unless the Plumbing work serves the stairwell.

3.9 NOISE, VIBRATION, AND EXPANSION CONTROL

- A. Contractor shall make provisions in their work so that noises and vibrations will not be transmitted through foundations, structure, floors, walls, columns, ducts, and piping, or other items and so that it will not be objectionable in any manner. All equipment and systems shall be selected and installed to minimize noise and vibration. If any equipment exceeds reasonable requirements as to quietness of operation and freedom from vibration when operating under continuous maximum demands, it shall be altered or replaced.
- B. Contractor shall provide vibration isolators for all Plumbing equipment, pumps, and piping systems as required by the construction documents. All reciprocating, or rotating equipment shall be isolated to reduce transmission of vibration into the structure even if not required elsewhere in the construction documents.
- C. Contractor shall work and coordinate with the noise and vibration control manufacturer and shall be responsible for the selection of the proper items for their loadings, quantities, floor span, and allowed isolator deflections.
- D. Special attention shall be given to the installation of piping systems which have appreciable movement or expansion so that they will not hit other systems, pipes, structural members, etc. under all conditions.
- E. Provide flexible connections or expansion compensators where pipes cross building expansion joints.

3.10 CUTTING, REPAIRING, PATCHING, AND REFINISHING

- A. All cutting, repairing, patching, and refinishing work in the Plumbing work shall be included as part of the Plumbing contractor's work, unless noted otherwise. All cutting, repairing, patching, and refinishing work in the work of other divisions/trades work shall be done by the associated other division/trade contractor at the Plumbing contractor's expense. The Plumbing contractor is responsible for coordinating, sizing, and locating this work with the other division/trade contractors. The Plumbing contractor is responsible for maintaining the project schedule and any delay in Plumbing work, lack of information, or lack of coordination with other divisions/trades shall be remedied at the Plumbing contractor's expense without additional cost to others.
- B. Contractor shall be responsible for protection and shall repair adjacent surfaces, areas, equipment, systems, and property that may be damaged as a result of demolition and/or new work. Contractor shall remove and replace existing lay-in ceiling grid and tiles as necessary to

complete above ceiling work. Return ceiling to original condition following completion of construction.

- C. Insulate piping where existing insulation has been damaged and/or removed in the performance of work for this project. Insulation shall be compatible with existing materials. Notify the owner and A/E if other damaged and/or removed insulation is found that was not a result of the work for this project so that the owner can make the necessary repairs.
- D. All cutting, repairing, patching, and refinishing work in architectural type surfaces shall be performed by the general contractor. Patch and repair floor slab and wall penetrations to match existing color, materials, and texture where the piping or equipment is being removed or installed. Plumbing contractor to coordinate with general contractor.
- E. All roofing modifications shall be done by owner's roofing vendor to maintain any and all warranties. Cost to be included in this contract unless specifically included in general trades contractor's scope of work. Confirm owner's roofing vendor prior to bid.
- F. All cutting, burning, drilling, repairing, patching, and refinishing of structural items shall be prohibited without specific written consent of the structural engineer. The Plumbing contractor is responsible for coordinating, requesting, and obtaining consent for such work.

3.11 CLEANING

- A. Contractor is responsible for providing continuous clean up during construction and shall assist in maintaining the premises in an orderly fashion at all times. Contractor shall remove all cartons, containers, and crates as soon as the contents have been removed and shall also remove all debris caused by work. Deposit all discarded materials and debris in a suitable container and prevent these materials from being scattered by the elements. Remove debris arising from cutting, threading, welding, etc. immediately and flush, blowdown, pig, snake, etc. all systems as necessary. The contractor shall leave the work area in a broom clean condition or better at the end of each day. The contractor shall thoroughly clean their work, work area, and the equipment at the completion of construction and prior to substantial completion so that the work is spotless and free from dust, dirt, grease, rust, oil, and other foreign matter. Contractor shall leave the work in good housekeeping condition prior to occupancy, in a manner acceptable to the A/E.
- B. Contractor shall stack, organize, and store all construction materials associated with their work in areas so as to avoid congestion and interference.
- C. Contractor shall specifically keep the following items thoroughly cleaned and free from dust, dirt, and other foreign matter at all times throughout the construction process. Contractor shall again clean and verify all items are clean prior to balancing, commissioning, and substantial completion. Contractor shall use compressed air or other specialty cleaning tools as necessary to clean tight/ hard to reach areas. Solvents, cleaning materials, and methods recommended by the manufacturer shall be used for the specific tasks:
 - 1. Inside and outside surfaces of equipment.
 - 2. Electronic/powered items.
 - 3. Drain pans and drains.

4. Cleanouts.
 5. Strainers.
 6. Openings in pipes.
- D. If the owner is occupying, operating, and/or using portions of the building during construction, the contractor shall provide all necessary items and work to contain all dust, dirt, debris, and other foreign matter in the work area and to not affect the other areas of the building. The contractor shall immediately clean as necessary to prevent all dust, dirt, debris, and other foreign matter from accumulating in the occupied, operated, and/or used portions of the building.
- E. Contractor shall be fully responsible for all costs, labor, damage, rework, delays, etc. arising from failure to clean and/or provide clean systems.

3.12 PAINTING

- A. Painting of all exposed-to-view pipes, hangers, supports, equipment, etc. shall be performed under another division/trade. This division/trade is responsible for making all Plumbing exposed-to-view items paint ready. All rust shall be removed, and scratches, scuffs, and abrasions shall be repaired prior to painting. Areas shall be cleaned and dried prior to painting. Under this division/trade, all manufactured equipment shall be furnished with factory-finished baked enamel, unless otherwise specified.
- B. Do not paint or have someone else paint any item that should not be painted. Examples: moving parts, electronics, glass, screens, equipment nameplates, control items, items that are not recommended to be painted according to the manufacturer, etc. Do not paint closed air vents, hinges, panels, access doors, or other similar items that need openings or need to be opened.
- C. Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish. Use manufacturer's paint (if applicable) and follow all manufacturer instructions.
- D. All painting shall be performed at the appropriate ambient temperatures and conditions per the paint manufacturer's instructions.

END OF SECTION 220500

SECTION 220519 - METERS AND GAUGES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pressure pressure gauges.
 - 2. Gauge attachments.
 - 3. Test plugs.
 - 4. Test-plug kits.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of meter and gauge, from manufacturer.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For meters and gauges to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 PRESSURE GAUGES

- A. Direct-Mounted, Metal-Case, Dial-Type Pressure Gauges:
 - 1. Manufacturers: Ashcroft, Terice, Weiss
 - 2. Standard: ASME B40.100.
 - 3. Case: Liquid-filled type(s); cast aluminum or drawn steel; 6-inch nominal diameter.
 - 4. Pressure-Element Assembly: Bourdon tube unless otherwise indicated.
 - 5. Pressure Connection: Brass, with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads and bottom-outlet type unless back-outlet type is indicated.
 - 6. Movement: Mechanical, with link to pressure element and connection to pointer.
 - 7. Dial: Nonreflective aluminum with permanently etched scale markings graduated in psi and kPa.
 - 8. Pointer: Dark-colored metal.

- 9. Window: Glass or plastic.
- 10. Ring: Metal.
- 11. Accuracy: Grade A, plus or minus 1 percent of middle half of scale range.

2.2 GAUGE ATTACHMENTS

- A. Snubbers: ASME B40.100, brass; with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads and porous-metal-type surge-dampening device. Include extension for use on insulated piping.
- B. Valves: Brass or stainless-steel needle, with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads.

2.3 TEST PLUGS

- A. Manufacturers: Trerice, Weiss, Watts
- B. Description: Test-station fitting made for insertion into piping tee fitting.
- C. Body: Brass or stainless steel with core inserts and gasketed and threaded cap. Include extended stem on units to be installed in insulated piping.
- D. Thread Size: NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe thread.
- E. Minimum Pressure and Temperature Rating: 500 psig at 200 deg F.
- F. Core Inserts: Chlorosulfonated polyethylene synthetic and EPDM self-sealing rubber.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install direct-mounted pressure gauges in piping tees with pressure gauge located on pipe at the most readable position.
- B. Install valve and snubber in piping for each pressure gauge for fluids.
- C. Install test plugs in piping tees.
- D. Install pressure gauges in the following locations:
 - 1. Building water service entrance into building.

3.2 CONNECTIONS

- A. Install meters and gauges adjacent to machines and equipment to allow service and maintenance of meters, gauges, machines, and equipment.

3.3 ADJUSTING

- A. Adjust faces of meters and gauges to proper angle for best visibility.

3.4 PRESSURE-GAUGE SCHEDULE

- A. Pressure gauges at discharge of each water service into building shall be one of the following:
 - 1. Liquid-filled, direct mounted, metal case.
 - 2. Sealed, direct mounted, plastic case.
 - 3. Test plug with chlorosulfonated polyethylene synthetic or EPDM self-sealing rubber inserts.

3.5 -RANGE SCHEDULE

- A. Scale Range for Water Service Piping: 0 to 160 psi and 0 to 1100 kPa.
- B. Scale Range for Domestic Water Piping: 0 to 160 psi and 0 to 1100 kPa.

END OF SECTION 220519

SECTION 220523 - GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gate valves.

1.2 DEFINITIONS

- A. CWP: Cold working pressure.
- B. EPDM: Ethylene propylene copolymer rubber.
- C. NPS: Nominal Pipe Size
- D. OS&Y: Outside screw and yoke.
- E. SWP: Steam working pressure.

1.3 SUBMITTALS

- A. Product Data: For each type of valve indicated, include: Body, seating and trim materials; valve design; pressure and temperature classifications; end connections, arrangements; dimensions and required clearances. Submit pressure drop curves for no-slam check valves. Include a list indicating valve type and its piping system application. Include rated capacities; shipping and operating weights and furnished specialties and accessories.
- B. Contract Closeout Information:
1. Valve chart indicating valve identification number, valve type, service, manufacturer and model number, and location of valve.
 2. Operating and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.
1. Grooved end valves shall be of the same manufacturer as adjoining couplings.
- B. UL Compliance:

1. NSF-61 for valves in potable water systems.
 2. NSF-372 for low-lead requirements.
 - C. ASME Compliance:
 1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
 2. ASME B31.1 for power piping valves.
 3. ASME B31.9 for building services piping valves.
 4. ASME Boiler Code Specifications for Boiler Room valves.
 - D. ASTM Compliance:
 1. ASTM B62 for 125 psi and 150 psi saturated steam rated valve pressure containing parts.
 2. ASTM B61 for 200 psi and 300 psi valves with metallic seats.
 - E. Factory test all valve bodies, shells and seats per MSS requirements at a minimum.
 - F. Iron Body Valves
 1. Pressure-Containing Parts: ASTM A126, Grade B or ASTM A536, Grade 65-45-12.
 2. Face-to-Face and End-to-End Dimensions: ANSI B16.10.
 3. Design, Workmanship, Materials, Testing: MSS SP-70, 71, 85.
 - G. Valve Stems: ASTM B371, Alloy C69400; ASTM B371, Alloy C65100H04 (rolled silicon brass); or other material equally resistant to dezincification.
 - H. Valve Bypass and Drain Connections: MSS SP-45.
 - I. Pressure casting shall be free of impregnating materials, no welding of iron allowed.
 - J. Manufacturer's name or trademark and working pressure stamped or cast into body.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Prepare valves for shipping as follows:
 1. Protect internal parts against rust and corrosion.
 2. Protect threads, flange faces, grooved ends, and weld ends.
 3. Set gate and globe valves closed to prevent rattling.
 - B. Use the following precautions during storage:
 1. Maintain valve end protection.
 2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.
 - C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following. Where a specific manufacturer is listed in the Drawings, this shall be considered the Basis-of-Design.
- B. Ball Valves:
 - 1. Milwaukee, Hammond, Crane, NIBCO, Apollo, Watts, Tyco, Mueller or Victaulic.

2.2 GENERAL REQUIREMENTS FOR VALVES

- A. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. Valves shall be rated for pressures and temperatures no less than 20% over that of the piping system in which they are installed. Account for piping system pressure tests when selecting component ratings.
- B. Valve Sizes: Same as upstream piping unless otherwise indicated.
- C. Valve Actuator Types:
 - 1. Handwheel: For valves other than quarter-turn types.
- D. Valves in Insulated Piping: With 2-inch stem extensions and the following features:
 - 1. Gate Valves: With rising stem.
- E. Valve-End Connections:
 - 1. Flanged: With flanges according to ASME B16.1 for iron valves.
 - 2. Grooved: With grooves according to AWWA C606.
 - 3. Threaded: With threads according to ASME B1.20.1.

2.3 GATE VALVES

- A. Iron Gate Valves:
 - 1. Description:
 - a. Standard: MSS SP-70, Type I.
 - b. ANSI Class: 125
 - c. CWP Rating: 200 psig.
 - d. Body Material: ASTM A 126, cast iron.
 - e. Ends: Flanged.
 - f. Wedge and Seat Rings Material: Cast bronze.
 - g. Disc: Solid Wedge-Cast iron.

- h. Packing and Gasket: Asbestos free.
- i. Bonnet: Bolted
- j. Stem: O.S. & Y.
- k. Operator: Hand Wheel-Cast iron.

B. Forged Carbon Steel Gate Valves:

1. Description:

- a. ANSI Class: 300 or 600
- b. Body Material: ASTM A 105, forged carbon steel.
- c. Ends: Flanged or weld.
- d. Seat Ring Material: Hard faced stainless steel (Type 410).
- e. Disc: Solid Wedge-Stainless steel (Type 410).
- f. Bonnet: Bolted
- g. Packing and Gasket: Asbestos free.
- h. Stem: O.S. & Y.
- i. Operator: Hand Wheel-Malleable iron.

C. Cast Steel Gate Valves:

1. Description:

- a. ANSI Class: 300
- b. Body Material: ASTM A 216, cast steel.
- c. Ends: Flanged.
- d. Seat Ring Material: Stellite hard facing over plain carbon steel.
- e. Disc: Stainless steel (ASTM A 217).
- f. Bonnet: Bolted.
- g. Stem: O.S. & Y.
- h. Operator: Hand Wheel-Malleable iron.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
- C. Examine threads on valve and mating pipe for form and cleanliness.

- D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.
- E. Do not attempt to repair defective valves; replace with new valves.
- F. Examine grooved ends for form and cleanliness. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove.

3.2 VALVE INSTALLATION

- A. Install valves at locations shown on the Drawings, per the Specifications and in accordance with manufacturer's written instructions.
- B. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- C. Unions and flanges for servicing and disconnect are not required in installations using grooved mechanical joint couplings (the couplings shall serve as disconnect points if required).
- D. Locate valves for easy access and provide separate support where necessary.
- E. Install valves in horizontal piping with handwheel and stem at or above center of pipe.
- F. Install valves in position to allow full stem movement.

3.3 ADJUSTING

- A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.4 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

- A. If valves with specified SWP classes or CWP ratings are not available, the same types of valves with higher SWP classes or CWP ratings may be substituted.

3.5 PLUMBING SYSTEMS

- A. Pipe NPS 2-1/2 and Larger:
 - 1. Shutoff: Gate Valves.

END OF SECTION 220523

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal pipe hangers and supports.
 - 2. Trapeze pipe hangers.

1.2 DEFINITIONS

- A. MSS: Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
- B. Terminology: As defined in MSS SP-90, "Guidelines on Terminology for Pipe Hangers and Supports."

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design trapeze pipe hangers and equipment supports, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
 - 1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.
 - 2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
 - 3. Design seismic-restraint hangers and supports for piping and equipment.

1.4 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: For each type of product indicated.
 - 2. Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details and include calculations for the following; include Product Data for components:
 - a. Trapeze pipe hangers.

3. Delegated-Design Submittal: For trapeze hangers indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

- a. Detail fabrication and assembly of trapeze hangers.
- b. Design Calculations: Calculate requirements for designing trapeze hangers.

B. Informational Submittals:

1. Welding certificates.

C. Closeout Submittals:

1. Operation and Maintenance Data.

1.5 QUALITY ASSURANCE

- A. Structural Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.
- C. SMACNA.
- D. Pipe Hanger Standards: Manufacturers Standardization Society (MSS) SP-58, SP-89, and SP-69, as referenced.

PART 2 - PRODUCTS

2.1 METAL PIPE HANGERS AND SUPPORTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following. Where a specific manufacturer is listed in the Drawings, this shall be considered the Basis-of-Design.
 1. B-line Systems, Inc; a division of Cooper Industries.
 2. Carpenter & Paterson, Inc.
 3. ERICO/Michigan Hanger Co.
 4. Globe Pipe Hanger Products, Inc.
 5. Grinnell Corp.
 6. Hilti North America.
 7. National Pipe Hanger Corporation.
 8. PHD Manufacturing, Inc.
- B. Carbon-Steel Pipe Hangers and Supports:
 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.

2. Galvanized Metallic Coatings: Pregalvanized or hot dipped.
3. Nonmetallic Coatings: Plastic coating, jacket, or liner.
4. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
5. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel or stainless steel.

C. Saddles

1. Material Galvanized Steel, 180-degree shape, each saddle marked with insulation O.D. Standard manufacturers gauge per insulated pipe size.

D. Stainless-Steel Pipe Hangers and Supports:

1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
2. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
3. Hanger Rods: Continuous-thread rod, nuts, and washer made of stainless steel.

E. Copper Pipe Hangers:

1. Description: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components.
2. Hanger Rods: Continuous-thread rod, nuts, and washer made of copper-coated steel or stainless steel.

2.2 TRAPEZE PIPE HANGERS

- A. Description: MSS SP-69, Type 59, shop- or field-fabricated pipe-support assembly made from structural carbon-steel shapes with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts.

2.3 MISCELLANEOUS MATERIALS

- A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.
- B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
1. Properties: Nonstaining, noncorrosive, and nongaseous.
 2. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 HANGER AND SUPPORT INSTALLATION

- A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.
- B. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Arrange for grouping of parallel runs of horizontal piping, and support together on field-fabricated trapeze pipe hangers.
 - 1. Pipes of Various Sizes: Support together and space trapezes for smallest pipe size or install intermediate supports for smaller diameter pipes as specified for individual pipe hangers.
 - 2. Field fabricate from ASTM A 36/A 36M, carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1/D1.1M.
- C. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- D. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- E. Install lateral bracing with pipe hangers and supports to prevent swaying.
- F. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- G. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- H. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.
- I. Insulated Piping:
 - 1. Attach clamps and spacers to piping.
 - a. Piping Operating Above Ambient Air Temperature: Clamp may project through insulation.
 - b. Piping Operating Below Ambient Air Temperature: Use thermal-hanger shield insert with clamp sized to match OD of insert.
 - c. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.

3.2 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.3 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.
- D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.
- E. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers, and metal framing systems and attachments for general service applications.
- F. Use padded hangers for piping that is subject to scratching.
- G. Use thermal-hanger shield inserts for insulated piping and tubing.
- H. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of non-insulated or insulated, stationary pipes NPS 1/2 to NPS 30.
 - 2. Yoke-Type Pipe Clamps (MSS Type 2): For suspension of up to 1050 deg F, pipes NPS 4 to NPS 24, requiring up to 4 inches of insulation.
 - 3. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36, requiring clamp flexibility and up to 4 inches of insulation.
 - 4. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 if little or no insulation is required.
 - 5. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
 - 6. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes NPS 3/4 to NPS 8.
 - 7. Adjustable, Steel Band Hangers (MSS Type 7): For suspension of non-insulated, stationary pipes NPS 1/2 to NPS 8.
 - 8. Adjustable Band Hangers (MSS Type 9): For suspension of non-insulated, stationary pipes NPS 1/2 to NPS 8.
 - 9. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of non-insulated, stationary pipes NPS 1/2 to NPS 8.

10. Split Pipe Ring with or without Turnbuckle Hangers (MSS Type 11): For suspension of non-insulated, stationary pipes NPS 3/8 to NPS 8.
 11. Extension Hinged or Two-Bolt Split Pipe Clamps (MSS Type 12): For suspension of non-insulated, stationary pipes NPS 3/8 to NPS 3.
 12. U-Bolts (MSS Type 24): For support of heavy pipes NPS 1/2 to NPS 30.
 13. Clips (MSS Type 26): For support of insulated pipes not subject to expansion or contraction.
 14. Pipe Saddle Supports (MSS Type 36): For support of pipes NPS 4 to NPS 36, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
 15. Pipe Stanchion Saddles (MSS Type 37): For support of pipes NPS 4 to NPS 36, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate, and with U-bolt to retain pipe.
 16. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes NPS 2-1/2 to NPS 36 if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.
 17. Single-Pipe Rolls (MSS Type 41): For suspension of pipes NPS 1 to NPS 30, from two rods if longitudinal movement caused by expansion and contraction might occur.
 18. Adjustable Roller Hangers (MSS Type 43): For suspension of pipes NPS 2-1/2 to NPS 24, from single rod if horizontal movement caused by expansion and contraction might occur.
 19. Complete Pipe Rolls (MSS Type 44): For support of pipes NPS 2 to NPS 42 if longitudinal movement caused by expansion and contraction might occur but vertical adjustment is not necessary.
 20. Pipe Roll and Plate Units (MSS Type 45): For support of pipes NPS 2 to NPS 24 if small horizontal movement caused by expansion and contraction might occur and vertical adjustment is not necessary.
 21. Adjustable Pipe Roll and Base Units (MSS Type 46): For support of pipes NPS 2 to NPS 30 if vertical and lateral adjustment during installation might be required in addition to expansion and contraction.
- I. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24.
 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 if longer ends are required for riser clamps.
- J. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches for heavy loads.
 2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
 3. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11, split pipe rings.
 4. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
 5. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.

- K. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
 2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joist construction, to attach to top flange of structural shape.
 3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
 4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
 5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
 6. C-Clamps (MSS Type 23): For structural shapes.
 7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
 8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
 9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
 10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
 11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
 12. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:
 - a. Light (MSS Type 31): 750 lb.
 - b. Medium (MSS Type 32): 1500 lb.
 - c. Heavy (MSS Type 33): 3000 lb.
 13. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
 14. Plate Lugs (MSS Type 57): For attaching to steel beams if flexibility at beam is required.
 15. Horizontal Travelers (MSS Type 58): For supporting piping systems subject to linear horizontal movement where headroom is limited.
- L. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.
- M. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.

END OF SECTION 220529

SECTION 220719 - PLUMBING PIPING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes insulating plumbing piping systems.

1.2 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied, if any).

1.3 QUALITY ASSURANCE

- A. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84 by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.
 - 1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
 - 2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.
- B. Protection: Do not permit mineral fiber or calcium silicate insulation to get wet. Mineral fiber or calcium silicate insulation that is or has been wet shall be removed from the project site.

1.5 COORDINATION

- A. Coordinate sizes and locations of supports, hangers, and insulation shields.
- B. Coordinate clearance requirements with piping Installer for piping insulation application.

1.6 SCHEDULING

- A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

- A. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- B. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.
- C. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.
- D. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.
- E. Non-flexible Fiberglass
 - 1. O-C fiberglass ASJ/SSL-II pipe insulation with all service jacket (ASJ).
 - 2. Thermal conductivity (K value): Not greater than 0.23 at mean temperature of 75 deg F.
 - 3. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Manville
 - b. Owens Corning Insulating Systems, LLC.
 - c. Manson
 - d. Knauf.

2.2 FACTORY-APPLIED JACKETS

- A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:
 - 1. All-Service Jacket (ASJ): White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I. Maximum water vapor permeance 0.02 perms.
 - 2. All-Service Jacket – Self-Sealing Lap (ASJ-SSL): ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip; complying with ASTM C 1136, Type I. Maximum water vapor permeance 0.02 perms.

3. Foil-Scrim Kraft (FSK) Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II. Maximum water vapor permeance 0.02 perms.

2.3 FIELD-APPLIED JACKETS

- A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.
- B. FSK Jacket: Aluminum-foil-face, fiberglass-reinforced scrim with kraft-paper backing.
- C. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Adhesive as recommended by jacket material manufacturer.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Johns Manville; Ceel-Co or Zeston.
 - b. P.I.C. Plastics, Inc.; FG Series.
 - c. Proto Corporation; LoSmoke.
 - d. Speedline Corporation; SmokeSafe.
 2. Color: White unless indicated otherwise.
 3. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.
- D. Self-Adhesive Indoor or Outdoor Jacket: Multiple-ply laminated vapor barrier and waterproofing membrane for installation over insulation; consisting of aluminum, Tedlar, or laminate sheet with integral acrylic peel-and-stick adhesive with white, silver, or black facing as indicated.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. 3M; VentureClad.
 - b. Polyguard Products, Inc.; Alumaguard 60.
- E. PVDC Jacket for Indoor Applications: 4-mil-thick, white PVDC biaxially oriented barrier film with a permeance at 0.02 perms when tested according to ASTM E 96/E 96M and with a flame-spread index of 5 and a smoke-developed index of 20 when tested according to ASTM E 84.
- F. PVDC Jacket for Outdoor Applications: 6-mil-thick, white PVDC biaxially oriented barrier film with a permeance at 0.01 perms when tested according to ASTM E 96/E 96M and with a flame-spread index of 5 and a smoke-developed index of 25 when tested according to ASTM E 84.
- G. PVDC-SSL Jacket: PVDC jacket with a self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.
 - 1. Verify that systems to be insulated have been tested and are free of defects.
 - 2. Verify that surfaces to be insulated are clean and dry.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.
- B. Surface Preparation: Clean and prepare surfaces to be insulated. Before insulating, apply a corrosion coating to insulated surfaces as follows:
 - 1. Carbon Steel: Coat carbon steel operating at a service temperature between 32 and 300 deg F with an epoxy coating. Consult coating manufacturer for appropriate coating materials and application methods for operating temperature range.
- C. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless-steel surfaces, use demineralized water.

3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Install insulation in accordance with manufacturers' instructions.
- B. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and specialties.
- C. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of pipe system.
- D. Do not install plastic piping in an air plenum.
- E. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
- F. Install insulation with longitudinal seams at top and bottom of horizontal runs.
- G. Install multiple layers of insulation with longitudinal and end seams staggered.
- H. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.

- I. Keep insulation materials dry during application and finishing. Mineral fiber or calcium silicate insulation that is or has been wet shall be removed from the job site.
- J. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
- K. Install insulation with least number of joints practical.
- L. Install insulation with factory-applied jackets as follows:
 - 1. Draw jacket tight and smooth.
 - 2. Cover circumferential joints with 3-inch-wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches on center.
 - 3. Overlap jacket longitudinal seams at least 1-1/2 inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 4 inches on center.
 - a. For below-ambient services, apply vapor-barrier mastic over staples.
 - 4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
 - 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.
- M. Cut insulation in a manner to avoid compressing insulation to less than 75 percent of its nominal thickness.
- N. Repair joint separations and cracking due to thermal movement.
- O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

3.4 GENERAL PIPE INSULATION INSTALLATION

- A. Requirements in this article generally apply to all insulation materials except where more specific requirements are specified in various pipe insulation material installation articles.
- B. Insulation Installation on Fittings, Valves, Strainers, Flanges, and Unions:
 - 1. Install insulation over fittings, valves, strainers, flanges, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
 - 2. Insulate pipe elbows using preformed fitting insulation or mitered fittings made from same material and density as adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.

3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
 4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is more. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
 5. Insulate strainers using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is more. Fill joints, seams, and irregular surfaces with insulating cement. Insulate strainers so strainer basket flange or plug can be easily removed and replaced without damaging the insulation and jacket. Provide a removable reusable insulation cover. For below-ambient services, provide a design that maintains vapor barrier.
 6. Insulate flanges and unions using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is more.
 7. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
 8. For services not specified to receive a field-applied jacket, except for flexible elastomeric, install fitted PVC cover over elbows, tees, strainers, valves, flanges, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing using PVC tape.
 9. Stencil or label the outside insulation jacket of each union with the word "union." Match size and color of pipe labels.
- C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.
- D. Install removable insulation covers at locations indicated. Installation shall conform to the following:
1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as adjoining pipe insulation.
 2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union long at least two times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless-steel or aluminum bands. Select band material compatible with insulation and jacket.

3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.
4. When covers are made from block insulation, make two halves, each consisting of mitered blocks wired to stainless-steel fabric. Secure this wire frame, with its attached insulation, to flanges with tie wire. Extend insulation at least 2 inches over adjacent pipe insulation on each side of valve. Fill space between flange or union cover and pipe insulation with insulating cement. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.

3.5 INSTALLATION OF NON-FLEXIBLE PIPE INSULATION

- A. On piping, install with lap joint attached using outward clinching staples, 3-inch centers, 1/4 inch from edge on hot piping. On cold piping, use self-sealing lap system or adhesive applied to both surfaces per manufacturer's recommendation. Do not staple cold piping. Butt adjoining sections of insulation tightly together and continue jacket by installing self-adhering butt strips over entire circumferential joint.
- B. Installation of Insulation of Fittings
 1. For pipe sizes 2 inches and smaller, finish with mineral fiber cement to thickness of adjoining pipe insulation.
 2. Over 2 inches, insulate with mitered pipe insulation segments or preformed fiberglass fittings secured with vinyl faced insulation strapping tape or 20 ga galvanized annealed wire and finished with one coat of mineral fiber cement.
 3. After cement is dry, finish with Glass Fab and seal with Foster 30-36 adhesive.
 4. Prefabricated fitting covers approved for use at pipe fittings may be used instead of finishing method outlined above.
 5. Install in accordance with manufacturer's recommendations

3.6 FIELD-APPLIED JACKET INSTALLATION

- A. Where glass-cloth jackets are indicated, install directly over bare insulation or insulation with factory-applied jackets.
 1. Draw jacket smooth and tight to surface with 2-inch overlap at seams and joints.
 2. Embed glass cloth between two 0.062-inch-thick coats of lagging adhesive.
 3. Completely encapsulate insulation with coating, leaving no exposed insulation.
- B. Where FSK jackets are indicated, install as follows:
 1. Draw jacket material smooth and tight.
 2. Install lap or joint strips with same material as jacket.
 3. Secure jacket to insulation with manufacturer's recommended adhesive.
 4. Install jacket with 1-1/2-inch laps at longitudinal seams and 3-inch-wide joint strips at end joints.
 5. Seal openings, punctures, and breaks in vapor-retarder jackets and exposed insulation with vapor-barrier mastic.

- C. Where PVC jackets are indicated, install with 1-inch overlap at longitudinal seams and end joints; for horizontal applications. Seal with manufacturer's recommended adhesive.
 - 1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.
- D. Where metal jackets are indicated, install with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Secure jacket with stainless-steel bands 12 inches on center and at end joints.
- E. Where PVDC jackets are indicated, install as follows:
 - 1. Apply three separate wraps of filament tape per insulation section to secure pipe insulation to pipe prior to installation of PVDC jacket.
 - 2. Wrap factory-presizes jackets around individual pipe insulation sections with one end overlapping the previously installed sheet. Install presized jacket with an approximate overlap at butt joint of 2 inches over the previous section. Adhere lap seal using adhesive or SSL, and then apply 1-1/4 circumferences of appropriate PVDC tape around overlapped butt joint.
 - 3. Continuous jacket can be spiral-wrapped around a length of pipe insulation. Apply adhesive or PVDC tape at overlapped spiral edge. When electing to use adhesives, refer to manufacturer's written instructions for application of adhesives along this spiral edge to maintain a permanent bond.
 - 4. Jacket can be wrapped along length of roll with 2-inch-overlap seal. Use adhesive on the lap seal. Visually inspect lap seal for "fishmouthing," and use PVDC tape along lap seal to secure joint.
 - 5. Repair holes or tears in PVDC jacket by placing PVDC tape over the hole or tear and wrapping a minimum of 1-1/4 circumferences to avoid damage to tape edges.

3.7 FINISHES

- A. Pipe Insulation with ASJ, Glass-Cloth, or Other Paintable Jacket Material: Paint jacket with paint system identified below.
 - 1. Flat Acrylic Finish: Two finish coats over a primer that is compatible with jacket material and finish coat paint. Add fungicidal agent to render fabric mildew proof.
 - a. Finish Coat Material: Interior, flat, latex-emulsion size.
- B. Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply two coats of insulation manufacturer's recommended protective coating.
- C. Color: Final color as indicated. Vary first and second coats to allow visual inspection of the completed Work.
- D. Do not field paint aluminum or stainless-steel jackets.

3.8 INDOOR PIPING INSULATION SCHEDULE

A. Domestic Cold Water:

1. NPS 2-1/2 or Larger: Insulation shall be one of the following:
 - a. Fiberglass: 1 inches thick

3.9 INDOOR, FIELD-APPLIED JACKET SCHEDULE

- A. Install jacket over insulation material. For insulation with factory-applied jacket, install the field-applied jacket over the factory-applied jacket.
- B. If more than one material is listed, selection from materials listed is Contractor's option.
- C. Piping, Concealed: None.
- D. Piping, Exposed:
 1. PVC, Color-Coded by System: 20 mils thick.
 2. Aluminum, Smooth: 0.020 inch thick.
 3. Stainless Steel, Type 304 or Type 316, Smooth 2B Finish: 0.016 inch thick.

END OF SECTION 220719

SECTION 221116 - DOMESTIC WATER PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Under-building-slab and aboveground domestic water pipes, tubes, and fittings inside buildings.
2. Encasement for piping.

1.2 ACTION SUBMITTALS

A. Product Data: For transition fittings and dielectric fittings.

B. Product Data: For grooved-joint couplings and fittings.

C. LEED Submittals:

1. Product Data for Credit IEQ 4.1: For solvent cements and adhesive primers, documentation including printed statement of VOC content.
2. Laboratory Test Reports for Credit IEQ 4: For solvent cements and adhesive primers, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

1.3 INFORMATIONAL SUBMITTALS

A. System purging and disinfecting activities report.

B. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. NSF Compliance:

1. NSF-61 for components in potable water systems.
2. NSF-372 for low-lead requirements.

1.5 FIELD CONDITIONS

- A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:
 - 1. Notify Owner's representative no fewer than two days in advance of proposed interruption of water service.
 - 2. Do not interrupt water service without Owner's representative's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.
- B. Potable-water piping and components shall comply with NSF 14 and NSF 61. Plastic piping components shall be marked with "NSF-pw."

2.2 DUCTILE-IRON PIPE AND FITTINGS

- A. Mechanical-Joint, Ductile-Iron Pipe:
 - 1. AWWA C151/A21.51, with mechanical-joint bell and plain spigot end unless grooved or flanged ends are indicated.
 - 2. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
- B. Standard-Pattern, Mechanical-Joint Fittings:
 - 1. AWWA C110/A21.10, ductile or gray iron.
 - 2. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
- C. Compact-Pattern, Mechanical-Joint Fittings:
 - 1. AWWA C153/A21.53, ductile iron.
 - 2. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
 - 3.
- D. Plain-End, Ductile-Iron Pipe: AWWA C151/A21.51.
- E. Appurtenances for Grooved-End, Ductile-Iron Pipe:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Shurjoint Piping Products.
 - b. Star Pipe Products.
 - c. Victaulic Company.
2. Fittings for Grooved-End, Ductile-Iron Pipe: ASTM A 536, ductile-iron castings with dimensions that match pipe.
3. Mechanical Couplings for Grooved-End, Ductile-Iron-Piping:
 - a. AWWA C606 for ductile-iron-pipe dimensions.
 - b. Ferrous housing sections.
 - c. Butyl-rubber gaskets suitable for hot and cold water.
 - d. ASTM A449 bolts and nuts.
 - e. Minimum Pressure Rating:
 - 1) NPS 3 to NPS 12: 350 psig.
 - 2) NPS 14 to NPS 18: 250 psig.
 - 3) NPS 20 to NPS 46: 150 psig.

2.3 PIPING JOINING MATERIALS

A. Pipe-Flange Gasket Materials:

1. AWWA C110/A21.10, rubber, flat face, 1/8 inch thick or ASME B16.21, nonmetallic and asbestos free unless otherwise indicated.
2. Full-face or ring type unless otherwise indicated.

B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

2.4 DIELECTRIC FITTINGS

A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Capitol Manufacturing Company; member of the Phoenix Forge Group.
 - b. Central Plastics Company.
 - c. Hart Industries International, Inc.

- d. Jomar International.
 - e. Matco-Norca.
 - f. McDonald, A. Y. Mfg. Co.
 - g. Watts; a division of Watts Water Technologies, Inc.
 - h. Wilkins; a Zurn company.
 - 2. Standard: ASSE 1079.
 - 3. Pressure Rating: 125 psig minimum at 180 deg F.
 - 4. End Connections: Solder-joint copper alloy and threaded ferrous.
- C. Dielectric Flanges:
- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Capitol Manufacturing Company; member of the Phoenix Forge Group.
 - b. Central Plastics Company.
 - c. Matco-Norca.
 - d. Watts; a division of Watts Water Technologies, Inc.
 - e. Wilkins; a Zurn company.
 - 2. Standard: ASSE 1079.
 - 3. Factory-fabricated, bolted, companion-flange assembly.
 - 4. Pressure Rating: 125 psig minimum at 180 deg F.
 - 5. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.
- D. Dielectric-Flange Insulating Kits:
- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Advance Products & Systems, Inc.
 - b. Calpico, Inc.
 - c. Central Plastics Company.
 - d. Pipeline Seal and Insulator, Inc.
 - 2. Nonconducting materials for field assembly of companion flanges.
 - 3. Pressure Rating: 150 psig.
 - 4. Gasket: Neoprene or phenolic.
 - 5. Bolt Sleeves: Phenolic or polyethylene.
 - 6. Washers: Phenolic with steel backing washers.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.
- B. Install shutoff valve, hose-end drain valve, strainer, pressure gage, and test tee with valve inside the building at each domestic water-service entrance. Comply with requirements for pressure gages in Section 220519 "Meters and Gages for Plumbing Piping" and with requirements for drain valves and strainers in Section 221119 "Domestic Water Piping Specialties."
- C. Install shutoff valve immediately upstream of each dielectric fitting.
- D. Install domestic water piping level without pitch and plumb.
- E. Rough-in domestic water piping for water-meter installation according to utility company's requirements.
- F. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- G. Install piping to permit valve servicing.
- H. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than the system pressure rating used in applications below unless otherwise indicated.
- I. Install piping free of sags and bends.
- J. Install fittings for changes in direction and branch connections.

3.2 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- C. Joint Construction for Grooved-End, Ductile-Iron Piping: Make joints according to AWWA C606 and the manufacturer's published instructions. Cut round-bottom grooves in ends of pipe at gasket-seat dimension required for specified (flexible or rigid) joint. Lubricate and install gasket over ends of pipes or pipe and fitting. Install coupling housing sections over gasket with keys seated in piping grooves. Install and tighten housing bolts. Grooved-joint coupling manufacturer to provide factory-trained field representative for on-site training for

contractor's personnel in proper grooved-joint item fabrication and installation procedures. Representative shall periodically visit job site to ensure best practices in grooved product installation are being followed. Contractor shall remove and replace any improperly installed products.

- D. Joint Construction for Grooved-End Steel Piping: Make joints according to AWWA C606 and the manufacturer's published instructions. Roll groove ends of pipe as specified. Lubricate and install gasket over ends of pipes or pipe and fitting. Install coupling housing sections over gasket with keys seated in piping grooves. Install and tighten housing bolts. Grooved-joint coupling manufacturer to provide factory-trained field representative for on-site training for contractor's personnel in proper grooved-joint item fabrication and installation procedures. Representative shall periodically visit job site to ensure best practices in grooved product installation are being followed. Contractor shall remove and replace any improperly installed products.
- E. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts according to ASME B31.9.
- F. Joints for Dissimilar-Material Piping: Make joints using adapters compatible with materials of both piping systems.

3.3 DIELECTRIC FITTING INSTALLATION

- A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
- B. Dielectric Fittings for NPS 2 and Smaller: Use dielectric couplings, nipples or unions.
- C. Dielectric Fittings for NPS 2-1/2 to NPS 4: Use dielectric flanges, flange kits or nipples.
- D. Dielectric Fittings for NPS 5 and Larger: Use dielectric flange kits.

3.4 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for seismic-restraint devices in Section 220548 "Vibration and Seismic Controls for Plumbing Piping and Equipment."
- B. Comply with requirements for pipe hanger, support products, and installation in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
 - 1. Vertical Piping: MSS Type 8 or 42, clamps.
 - 2. Individual, Straight, Horizontal Piping Runs:
 - a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
 - b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
 - c. Longer Than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.

3. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
 4. Base of Vertical Piping: MSS Type 52, spring hangers.
- C. Support vertical piping and tubing at base and at each floor.
- D. Rod diameter may be reduced one size for double-rod hangers, to a minimum of 3/8 inch.
- E. Install hangers for steel piping with the following maximum horizontal spacing and minimum rod diameters:
1. NPS 1-1/4 and Smaller: 84 inches with 3/8-inch rod.
 2. NPS 1-1/2: 108 inches with 3/8-inch rod.
 3. NPS 2: 10 feet with 3/8-inch rod.
 4. NPS 2-1/2: 11 feet with 1/2-inch rod.
 5. NPS 3 and NPS 3-1/2: 12 feet with 1/2-inch rod.
 6. NPS 4 and NPS 5: 12 feet with 5/8-inch rod.
 7. NPS 6: 12 feet with 3/4-inch rod.
 8. NPS 8 to NPS 12: 12 feet with 7/8-inch rod.
- F. Install supports for vertical steel piping every 15 feet.
- G. Support piping and tubing not listed in this article according to MSS SP-69 and manufacturer's written instructions.

3.5 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. When installing piping adjacent to equipment and machines, allow space for service and maintenance.
- C. Connect domestic water piping to exterior water-service piping. Use transition fitting to join dissimilar piping materials.

3.6 IDENTIFICATION

- A. Identify system components. Comply with requirements for identification materials and installation in Section 220553 "Identification for Plumbing Piping and Equipment."
- B. Label pressure piping with system operating pressure.

3.7 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
1. Piping Inspections:

- a. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
- b. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:
 - 1) Roughing-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures.
 - 2) Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements.
- c. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
- d. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

2. Piping Tests:

- a. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.
- b. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
- c. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.
- d. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
- e. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
- f. Prepare reports for tests and for corrective action required.

B. Domestic water piping will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 ADJUSTING

A. Perform the following adjustments before operation:

1. Close drain valves, hydrants, and hose bibbs.
2. Open shutoff valves to fully open position.
3. Open throttling valves to proper setting.
4. Adjust balancing valves in hot-water-circulation return piping to provide adequate flow.

- a. Manually adjust ball-type balancing valves in hot-water-circulation return piping to provide hot-water flow in each branch.
 - b. Adjust calibrated balancing valves to flows indicated.
5. Remove plugs used during testing of piping and for temporary sealing of piping during installation.
 6. Remove and clean strainer screens. Close drain valves and replace drain plugs.
 7. Remove filter cartridges from housings and verify that cartridges are as specified for application where used and are clean and ready for use.
 8. Check plumbing specialties and verify proper settings, adjustments, and operation.

3.9 CLEANING

A. Clean and disinfect potable domestic water piping as follows:

1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:
 - a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
 - b. Fill and isolate system according to either of the following:
 - 1) Fill system or part thereof with water/chlorine solution with at least 50 ppm of chlorine. Isolate with valves and allow to stand for 24 hours.
 - 2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for three hours.
 - c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
 - d. Repeat procedures if biological examination shows contamination.
 - e. Submit water samples in sterile bottles to authorities having jurisdiction.

B. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

3.10 PIPING SCHEDULE

- A. Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
- B. Flanges and unions may be used for aboveground piping joints unless otherwise indicated.
- C. Aboveground domestic water piping, NPS 2-1/2 to NPS 4, shall be one of the following:

1. Mechanical-joint, ductile-iron pipe; standard- or compact-pattern, mechanical-joint fittings; and mechanical joints.
- D. Aboveground domestic water piping, NPS 5 to NPS 8, shall be one of the following:
 1. Mechanical-joint, ductile-iron pipe; standard- or compact-pattern, mechanical-joint fittings; and mechanical joints.

3.11 VALVE SCHEDULE

- A. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:
 1. Shutoff Duty: Use gate valves with flanged ends for piping NPS 2-1/2 and larger.
- B. Iron grooved-end valves may be used with grooved-end piping.

END OF SECTION 221116

SECTION 221119 - DOMESTIC WATER PIPING SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Backflow preventers.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For domestic water piping specialties.
 - 1. Include diagrams for power, signal, and control wiring.

1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For domestic water piping specialties to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PIPING SPECIALTIES

- A. Potable-water piping and components shall comply with NSF 61 and NSF 14

2.2 PERFORMANCE REQUIREMENTS

- A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig unless otherwise indicated.

2.3 BACKFLOW PREVENTERS

- A. Intermediate Atmospheric-Vent Backflow Preventers

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Cash Acme; a division of Reliance Worldwide Corporation.
 - b. Conbraco Industries, Inc.
 - c. FEBCO; a division of Watts Water Technologies, Inc.
 - d. Honeywell International Inc.
 - e. Legend Valve.
 - f. Watts; a division of Watts Water Technologies, Inc.; Watts Regulator Company.
 - g. Zurn Industries, LLC; Plumbing Products Group; Wilkins Water Control Products.
 2. Standard: ASSE 1012.
 3. Operation: Continuous-pressure applications.
 4. Size: NPS 1/2 or NPS 3/4.
 5. Body: Bronze.
 6. End Connections: Union, solderjoint.
 7. Finish: Rough bronze.
- B. Reduced-Pressure-Principle Backflow Preventers
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Ames Fire & Waterworks; a division of Watts Water Technologies, Inc.
 - b. Conbraco Industries, Inc.
 - c. FEBCO; a division of Watts Water Technologies, Inc.
 - d. Flomatic Corporation.
 - e. Watts; a division of Watts Water Technologies, Inc.; Watts Regulator Company.
 - f. Zurn Industries, LLC; Plumbing Products Group; Wilkins Water Control Products.
 2. Standard: ASSE 1013.
 3. Operation: Continuous-pressure applications.
 4. Pressure Loss: 12 psig maximum, through middle third of flow range.
 5. Size: See Drawings
 6. Design Flow Rate: See Drawings
 7. Selected Unit Flow Range Limits: See Drawings
 8. Body: Bronze for NPS 2 and smaller; steel with interior lining that complies with AWWA C550 or that is FDA approved or stainless steel for NPS 2-1/2 and larger.
 9. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and larger.
 10. Configuration: Designed for horizontal, straight-throughflow.
 11. Accessories:
 - a. Valves NPS 2 and Smaller: Ball type with threaded ends on inlet and outlet.
 - b. Valves NPS 2-1/2 and Larger: Outside-screw and yoke-gate type with flanged ends on inlet and outlet.
 - c. Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection.

C. Double-Check, Backflow-Prevention Assemblies

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Ames Fire & Waterworks; a division of Watts Water Technologies, Inc.
 - b. Conbraco Industries, Inc.
 - c. FEBCO; a division of Watts Water Technologies, Inc.
 - d. Flomatic Corporation.
 - e. Watts; a division of Watts Water Technologies, Inc.; Watts Regulator Company.
 - f. Zurn Industries, LLC; Plumbing Products Group; Wilkins Water Control Products.
2. Standard: ASSE 1015.
3. Operation: Continuous-pressure applications unless otherwise indicated.
4. Pressure Loss: 5 psig maximum, through middle third of flow range.
5. Body: Bronze for NPS 2 and smaller; steel with interior lining that complies with AWWA C550 or that is FDA approved for NPS 2-1/2 and larger.
6. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and larger.
7. Configuration: Designed for horizontal, straight-through flow.
8. Accessories:
 - a. Valves NPS 2 and Smaller: Ball type with threaded ends on inlet and outlet.
 - b. Valves NPS 2-1/2 and Larger: Outside-screw and yoke-gate type with flanged ends on inlet and outlet.

D. Backflow-Preventer Test Kits:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following.
 - a. Conbraco Industries, Inc.
 - b. FEBCO; a division of Watts Water Technologies, Inc.
 - c. Flomatic Corporation.
 - d. Watts; a division of Watts Water Technologies, Inc.; Watts Regulator Company.
 - e. Zurn Industries, LLC; Plumbing Products Group; Wilkins Water Control Products.
2. Description: Factory calibrated, with gages, fittings, hoses, and carrying case with test-procedure instructions.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Comply with authorities having jurisdiction.
 - 1. Locate backflow preventers in same room as connected equipment or system.
 - 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application.
 - 3. Do not install bypass piping around backflow preventers.

3.2 LABELING AND IDENTIFYING

- A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each of the following:
 - 1. Reduced-pressure-principle backflow preventers.
 - 2. Double-check, backflow-prevention assemblies.
- B. Distinguish among multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations, in addition to identifying unit. Nameplates and signs are specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.3 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. Test each reduced-pressure-principle backflow preventer and double-check, backflow-prevention assembly according to authorities having jurisdiction and the device's reference standard.
- B. Domestic water piping specialties will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 221119

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes, but not limited to:
 - 1. Raceways.
 - 2. Building wire and connectors.
 - 3. Switches.
 - 4. Receptacles and boxes.
 - 5. Grounding.
 - 6. Supporting devices for electrical components.
 - 7. Electrical identification.
 - 8. Electrical demolition.
 - 9. Cutting and patching for electrical construction.
 - 10. Field testing.
 - 11. Touchup painting.

1.2 DEFINITIONS

- A. Finished Areas: In general, areas with carpet or tile floors, lay-in or fixed ceiling tile, special architectural ceiling treatment, or tiled, plastered, or paneled walls shall be considered finished areas.
- B. Interior: For the purposes of this specification, interior is any area within the boundaries of the foundation of any building within the superstructure or other structures not classified as a building.
- C. Concealed: Embedded in or installed behind walls, within partitions, above suspended ceilings, below grade, in trenches, in tunnels and in crawl spaces.
- D. Exposed: Not installed underground or "concealed" as defined above
- E. Provide: To furnish and install (complete, tested, and ready for operation).
- F. Furnish: To purchase and deliver products to the project site and make ready for installation.
- G. Install: To take furnished products, assemble, erect, secure, connect, and place into operation.
- H. Products: Includes materials, systems and equipment.
- I. Work: The providing of products for entire contract.

1.3 SUBMITTALS

A. Action Submittal

1. Product Data: For all products specified.
2. Shop Drawings: Dimensioned plans and sections or elevation layouts of all electrical equipment specified.
3. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

1.4 QUALITY ASSURANCE

A. Codes and Standards: Perform all work in compliance with applicable requirements of governing agencies having jurisdiction and in accordance with these plans and as specified herein.

1. All work shall be installed in full accordance with the latest edition of the National Electrical Code (NEC) as prepared and published by the National Fire Protection Association (NFPA) and any applicable local or state codes/amendments. All electrical equipment shall be listed and labeled by Underwriters' Laboratories, Inc. (UL) or any approved independent nationally recognized electrical testing laboratory where such standards exist. Optionally, in lieu of such listing and labeling, equipment preapproved by the Electrical Inspector may be supplied. Wherever UL compliance is mentioned in the specifications, the above alternatives shall be understood to apply to all listing and labeling requirements. This does not preempt or replace the specifications or replace the approval process. All service switches/circuit breakers shall be listed and labeled as outlined above for service entrance duty.
2. Comply with the requirements of NFPA Code 241 "Standards for Safeguarding Construction, Alteration, and Demolition Operations", the American National Standards Institute (ANSI)/The American Society of Safety Engineers (ASSE) A10 Series standards for "Construction and Demolition Standards" and the National Electrical Contractors Association (NECA) National Joint Guideline NJG-5 "Temporary Job Utilities and Services."
3. In addition to the requirements outlined under other sections of the Contract Documents, all Work, material, and equipment shall comply with all requirements of the latest editions and interim amendments of the National Electrical Safety Code, National Fire Protection Association, OSHA, the building Owner's insurance company, and all applicable federal, state, and local laws and ordinances. All materials shall be listed and labeled by UL and installed as required by the listing.
4. Should any changes in the Drawings or the Project Manual be required to conform to the above regulations, the Contractor shall notify the **A/E Engineer** at the time of submitting his bid. After entering into the Owner-Contractor Agreement, the Contractor shall be held to complete all Work necessary to meet these requirements without additional expense to the Owner.

B. Permits and Regulations

1. The Contractor shall obtain all related permits required by laws, ordinances, rules, regulations, and public authority having jurisdiction. The Contractor shall obtain certificates of inspections as required by the permit documents and shall submit same to the A/E. The Contractor shall pay all fees, charges, and expenses in connection therewith. The Contractor shall furnish to the Owner a certificate of final inspection

from the proper authority prior to final payment. Obtain and pay for easements required to bring temporary utilities to the site, where the Owner's easement cannot be utilized for that purpose.

2. The Contractor shall not allow or cause any of the Work to be covered up or enclosed until the A/E or Owner has been notified and given reasonable opportunity (5 working days) to review the Work. When required by law or regulations, the governmental agency having jurisdiction for inspections shall be given reasonable notice and opportunity to inspect the Work. Any Work that is enclosed or covered up before such inspection and test shall be uncovered at the Contractor's expense; after it has been inspected, the Contractor shall restore the Work to its original condition at his own expense.

C. Interpretation of Drawings and Project Manual

1. Any discrepancies between Drawings, Project Manual, Drawings and Project Manual, or within Drawings and Project Manual shall be promptly brought to the attention of the A/E for clarification during the bidding period. No allowance shall subsequently be made to the Contractor by reason of his failure to have brought said discrepancies to the attention of the A/E during the bidding period or of any error on the Contractor's part.
2. The locations of switch, receptacle, light, motor, outlets, etc. shown on Drawings are approximate. The Contractor shall use good judgment in placing the preceding to eliminate all interference with ducts, piping, etc. Where any doubt exists, the exact location shall be determined by the A/E.
3. Check all door swings so that light switches are not located behind doors. Relocate switches as required, with A/E's review.
4. All general trades and mechanical Drawings shall be checked by the Contractor before installing any outlets, power wiring, etc.
5. Equipment sizes and locations shown on the Drawings are estimated. Before installing any wire or conduit, the Contractor shall obtain the exact equipment requirements, including wire and conduit entrance locations, and install wire, conduit, disconnect switches, motor starters, overload heaters, circuit breakers, or other items of the correct size and locations for the equipment actually installed. However, wire and conduit sizes shown on the Drawings shall be taken as a minimum and shall not be reduced without written approval from the A/E.
6. The Contractor shall provide all wiring, including disconnect switches and starters for all electrically operated equipment shown on Drawings, specified or required, except that starters and/or disconnect switches need not be furnished where it is specifically noted that they are furnished with the equipment.
7. The Drawings show the general arrangement required for installation of equipment and materials. The Contractor shall follow these Drawings as closely as possible. Should conditions necessitate other arrangements, the Contractor shall prepare and submit drawings showing the changes to the A/E for review before proceeding with the Work.
8. The A/E reserves the right to make minor changes in the location of the installation of equipment and materials up to the time of roughing in at no extra cost to the Owner.
9. The Drawings, do not show all offsets and do not detail every point at which unusual conditions of construction may require special attention. All additional fittings, conduits or specialties and other appurtenances necessary due to field conditions shall be provided by the Contractor.

10. In all cases where a device or part of the equipment is herein referred to in the singular number, it is intended that such reference shall apply to as many such devices as are required to complete the installations.

1.5 COORDINATION

- A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.
 1. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.
- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.
- C. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.
- D. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.
- E. Where electrical identification markings and devices will be concealed by acoustical ceilings and similar finishes, coordinate installation of these items before ceiling installation.

1.6 DESCRIPTIONS

- A. The Contractor shall provide the labor, tools, equipment, and materials necessary to complete and leave ready for operation all electrical systems as called for in these specifications or shown on the drawings and all details essential to complete the work. Items omitted from either the specifications or the drawings, but shown or described in the other trades, and all items necessary to make the electrical system complete and workable shall form a part of the work. No "extras" will be allowed.
- B. By submitting a bid, the Contractor certifies that:
 1. He has visited the site and is satisfied that he understands all site conditions that may have an effect on his bid price.
 2. He fully understands the make-up, construction, and operation of all systems and equipment he is bidding on, and he has included in his price all materials, supplies, accessories, and services necessary to make these systems complete and operational.
- C. Abbreviations used in these specifications:
 1. ADA - Americans with Disabilities Act
 2. ANSI - American National Standards Institute
 3. ASSE - The American Society of Safety Engineers
 4. CBM - Certified Ballast Manufacturers
 5. EIA - Electronic Industries Association

6. ETL - Electrical Testing Laboratories
 7. FCC - Federal Communications Commission
 8. ICEA - Insulated Cable Engineers Association
 9. IEC - International Electro Technical Commission
 10. IES - Illuminating Engineering Society
 11. IEEE - Institute of Electrical and Electronics Engineers
 12. ITL - Independent Testing Laboratories
 13. NEC - National Electrical Code
 14. NECA - National Electrical Contractors Association
 15. NEMA - National Electrical Manufacturer's Association
 16. NESC - National Electrical Safety Code
 17. UL - Underwriters Laboratories
 18. A/E - Architect of Record or Engineer of Record
- D. The Contractor shall turn over all certificates of approval for inspections of electrical work to the Owner promptly when received. These certificates must be received before payment will be made for the Work involved. The Contractor shall secure and pay for all permits and inspections required for the Work.
- E. The Contractor shall not allow or cause any of the Work to be covered up or enclosed until it has been inspected. Any Work that is enclosed or covered up before such inspection and test shall be uncovered at the Contractor's expense; after it has been inspected, the Contractor shall restore the Work to its original condition at his own expense.
- F. The Contractor shall keep an up-to-date record of all deviations from the Contract Documents. At completion of this Project, the Contractor shall deliver a set of As-Built Drawings and Specifications showing these deviations to the Owner.
- G. Certain areas require the Contractor to remove, add to, or relocate portions of existing Work. It shall be the Contractor's responsibility to remove ceiling, portions of walls, etc. in a manner so that he may install new Work. The Contractor shall then patch, repair and/or replace ceilings, walls, etc. to match existing conditions. The above applies to all areas not specifically indicated on Architectural Drawings as work to be performed by General Trades Contractor(s).
- H. If the Contractor fails to do any required patching or repair any damage resulting from the installation of the electrical Work, such patching or repairing shall be done by the Owner and the cost shall be paid by the Contractor.
- I. The Contractor shall conduct such tests and adjustments of equipment as required to verify equipment performance. Such tests shall be conducted in the presence of the Owner of his representative.
- J. The Contractor shall remove all debris resulting from the Work, as well as all tools, equipment, etc. from the site upon completion of this contract. All equipment including lighting fixtures and lenses shall be clean and free from dirt, grease, finger marks, etc., before final acceptance.
- K. All equipment furnished and work performed under the Contract Documents shall be guaranteed against defects in materials or workmanship for a period of one (1) year from the

date of final acceptance. Any failure of equipment or work due to defects in materials or workmanship shall be corrected by the Contractor at no cost to the Owner.

- L. During the construction operation, the Contractor shall at all times maintain electrical utilities of the building without interruption. Should it be necessary to interrupt any electrical service or utility, the Contractor shall secure permission in writing from the Owner for such interruption at least 72 hours in advance. Any interruption shall be made with minimum amount of inconvenience to the Owner and any shut-down time shall have to be on an overtime basis and such time will be included in electrical bid.

PART 2 - PRODUCTS

2.1 RACEWAYS

- A. Rigid Galvanized Conduit (RGC): UL 6 and galvanized by the hot-dip process. Fittings for rigid galvanized conduit shall be threaded.
- B. Electrical Metallic Tubing (EMT): ANSI C80.3, zinc-coated steel, with set-screw or compression fittings.
- C. Flexible Metallic Conduit (FMC): Zinc-coated steel.
- D. Intermediate Metal Conduit (IMC): ANSI C80.6, zinc-coated steel, with threaded fittings.
- E. Liquidtight Flexible Metal Conduit (LFMC): Zinc-coated steel with sunlight-resistant and mineral-oil-resistant plastic jacket.
- F. Rigid Nonmetallic Conduit (RNC): NEMA TC 2, Schedule 40 PVC, with NEMA TC3 fittings.
- G. Raceway Fittings: Specifically designed for the raceway type with which used.
- H. Wireways and Auxiliary Gutters: a minimum 4- by 4 inch trade size.
- I. Surface Raceways and Assemblies: shall conform to NFPA 70. Receptacles shall conform to NEMA WD 1, Type 5-15R or 5-20R.
- J. All conduits shall be 3/4" minimum except where otherwise noted. All conduits in finished spaces shall be concealed.

2.2 CONDUCTORS

- A. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
- B. Conductors, Larger than No. 10 AWG: Stranded copper.
- C. Insulation: Type THHN-THWN. Rated at 75 deg C minimum, where applicable.

- D. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.
- E. Multiconductor Cable: Use of Metal-Clad (MC) cable is prohibited.

2.3 SPLICES AND CONNECTORS

- A. Make all splices in AWG No. 8 and smaller with approved insulated electrical type connector.
- B. Make all splices in AWG No. 6 and larger with indenter crimp-type connectors and compression tools. Joints shall be wrapped with an insulating tape that has an insulation and temperature rating equivalent to that of the conductor.

2.4 WIRING DEVICES

- A. Toggle Switches
 - 1. Toggle switches shall comply with EIA 480, control incandescent, mercury, and fluorescent lighting fixtures and be of the heavy duty, general purpose, noninterchangeable flush-type.
 - 2. Toggle switches shall be Heavy Duty Specification grade, AC quiet type, 20 ampere, 120-277 volt, back and side wired with **white ivory brown other** handles. Switches on emergency power shall have red handles.
 - 3. All toggle switches shall be products of the same manufacturer.
- B. Receptacles
 - 1. Receptacles shall be Heavy Duty Specification grade, 20A, 125 VAC, back and side wired, 3-wire grounding, conforming to NEMA WD 6, NEMA 5-20R configuration.
 - 2. GFCI duplex receptacles shall be 20 ampere, 125 volt, back and side wired, feed-through type, and NEMA 5-20R configuration.
 - 3. Weather resistant Receptacle shall be UV, corrosion and impact resistant, with UL approved "WR" marking on face.
 - 4. All receptacles shall be **white ivory brown other**, unless on emergency power, where receptacles shall be red.
- C. Covers and Plates
 - 1. Plates for flushed devices in interior partitions shall be **stainless steel thermoplastic and white color**.
 - 2. Plates for devices in surface mounted boxes shall be stainless steel surface type.
 - 3. **Stainless steel plates shall be non-magnetic, satin, corrosion and finger print resistant and installed with matching stainless steel screws.**
 - 4. Covers for devices in exterior damp or wet locations shall be UL listed "while-in-use" type, die cast metal, powder coated gray, NEMA 3R rating, gasketed, lockable, with mounting hardware and plate to match device type.

2.5 OUTLET BOXES, AND PULL BOXES

- A. Outlet boxes for use with conduit systems shall be in accordance with ANSI/NEMA FB 1 and NEMA OS 1 and be not less than 40 millimeter 1-1/2 inches deep. Furnish all pull and junction boxes with screw-fastened covers.

2.6 SAFETY SWITCHES

- A. Safety Switches:
 - 1. Safety switches shall comply with NEMA KS 1, and be the heavy-duty type with enclosure, voltage, current rating, number of poles, and fusing as indicated. Switch construction shall be such that, when the switch handle in the "ON" position, the cover or door cannot be opened. Cover release device shall be coin-proof and be so constructed that an external tool shall be used to open the cover. Make provisions to lock the handle in the "OFF" position, but the switch shall not be capable of being locked in the "ON" position.
 - 2. Provide switches of the quick-make, quick-break type. Approve terminal lugs for use with copper conductors.
 - 3. Safety color coding for identification of safety switches shall conform to ANSI/NEMA Z535.1

2.7 GROUNDING

- A. Ground all circuits, luminaires, receptacles, motors, panels and other exposed noncurrent carrying metal parts of electrical equipment in accordance with the NEC.
- B. Provide all materials and labor to install a grounding system and bonded to approved, adequate grounding electrode(s).
- C. Provided an equipment grounding conductors in all electrical circuits.
- D. Where grounding conductors are susceptible to mechanical damage, they shall be installed in a rigid non-ferrous raceway.
- E. Conductors for grounding system shall be soft or medium hard drawn, stranded, insulated copper, except where otherwise notes. All conductors #8AWG and smaller shall be insulated, green in color. Ground conductors below grade or in slab shall be bare.
- F. All conductors to bus bars, structural members, pipes, and splices of ground conductors shall be made by exothermic welds, except where otherwise noted. All connections to bar lugs shall be exothermic weld or compression type. Bolted type connection of ground conductors may only be made where terminal lugs or blocks have been furnished and installed in equipment by manufacturer. Exothermic welds shall be: Cadweld or Therm-O-Weld.

2.8 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating acceptable to authorities having jurisdiction.

- B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
- C. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- D. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- E. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.
- F. Expansion Anchors: Carbon-steel wedge or sleeve type.
- G. Toggle Bolts: All-steel springhead type.

2.9 ELECTRICAL IDENTIFICATION

- A. Identification Devices: A single type of identification product for each application category. Use colors prescribed by ANSI A13.1, NFPA 70, and these Specifications.
- B. Raceway and Cable Labels: Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and minimum length of color field for each raceway and cable size.
 - 1. Type: Pretensioned, wraparound plastic sleeves. Flexible, preprinted, color-coded, acrylic band sized to suit the diameter of the item it identifies.
 - 2. Type: Preprinted, flexible, self-adhesive, vinyl. Legend is overlaminated with a clear, weather- and chemical-resistant coating.
 - 3. Color: Black letters on orange background.
 - 4. Legend: Indicates voltage.
- C. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1 inch wide by 3 mils thick.
- D. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- E. Color-Coding Cable Ties: Type 6/6 nylon, self-locking type. Colors to suit coding scheme.
- F. Engraved-Plastic Labels, Signs, and Instruction Plates: Engraving stock, melamine plastic laminate punched or drilled for mechanical fasteners 1/8-inch minimum thickness. Engraved legend in black letters on white background.
- G. Interior Warning and Caution Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145. Preprinted, aluminum, baked-enamel-finish signs, punched or drilled for mechanical fasteners, with colors, legend, and size appropriate to the application.

- H. Exterior Warning and Caution Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch, galvanized-steel backing, with colors, legend, and size appropriate to the application. 1/4-inch grommets in corners for mounting.
- I. Fasteners for Nameplates and Signs: Self-tapping, stainless-steel screws or No. 10/32 stainless-steel machine screws with nuts and flat and lock washers.

2.10 TOUCHUP PAINT

- A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.
- B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom.
- B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 RACEWAY APPLICATION

- A. Use the following raceways for outdoor installations:
 - 1. Exposed: RGC.
 - 2. Concealed: RGC.
 - 3. Connection to Vibrating Equipment: LFMC.
 - 4. Boxes and Enclosures: NEMA 250, Type 3R or Type 4X.
- B. Use the following raceways for indoor installations:
 - 1. Exposed greater than 8' AFF: RGC or EMT.
 - 2. Exposed up to 8' AFF: RGC.
 - 3. Concealed in Ceilings, Walls, and Partitions: EMT.
 - 4. Connection to Vibrating Equipment: FMC; except in wet or damp locations, use LFMC.
 - 5. Damp or Wet Locations: IMC or RGC.

- 6. Boxes and Enclosures: NEMA 250, Type 1 (Dry locations), Type 3R or 4X (Damp or Wet locations).

- C. Raceway Fittings: Compatible with raceways and suitable for use and location.

3.3 CONDUCTORS APPLICATION

- A. Exposed Branch Circuits, including in Crawlspace: Type THHN-THWN in raceway.
- B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN in raceway
- C. Branch Circuits Concealed in Concrete and below Slabs-on-Grade: Type THWN in raceway.

3.4 RACEWAY AND CABLE INSTALLATION

- A. Conceal raceways and cables, unless otherwise indicated, within finished walls, ceilings, and floors.
- B. Install raceways and cables at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Locate horizontal raceway runs above water and steam piping.
- C. Use temporary raceway caps to prevent foreign matter from entering.
- D. Make conduit bends and offsets so ID is not reduced. Keep legs of bends in the same plane and straight legs of offsets parallel, unless otherwise indicated.
- E. Use raceway and cable fittings compatible with raceways and cables and suitable for use and location.
- F. All conduits and fittings shall be run in straight lines parallel with or at right angles to building walls, partitions, floors and ceilings. When the location on the Plans interferes with other work in place or subsequently to be placed, the Contractor shall work out a satisfactory location, free from interferences. Individual conduits shall be rigidly supported and clamped with one-hole conduit clamps, conduit beam clamps, conduit hangers, or wall brackets, as required for the type of construction and/or as indicated on the Drawings. The use of perforated flat steel straps for supporting conduits will not be permitted. Conduits shall be secured so that they cannot be moved without the use of tools. Where a group of conduits run together, support the conduits on hangers fabricated from light steel framing unless otherwise shown on the Drawings.
- G. Conduit runs between outlet and outlet, between fitting and fitting, or between outlet and fitting shall not contain more than the equivalent of three 90-degree bends, including those bends located immediately at the outlet or fitting.
- H. Raceways installed below the slab-on-grade shall be over-excavated and laid on a 2" sand bed. Backfill shall be with pea gravel or sand to 3" above the raceway. Raceway shall be installed below the vapor barrier. Raceways shall not be installed embedded in slabs.

1. Transition from nonmetallic conduit to rigid steel conduit, or IMC before rising above floor.
 2. Make bends in exposed parallel or banked runs from same centerline to make bends parallel. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for exposed parallel raceways.
- I. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of the pull wire.
 - J. Install telephone and signal system raceways, 2-inch trade size and smaller, in maximum lengths of 150 feet and with a maximum of two 90-degree bends or equivalent. Separate lengths with pull or junction boxes where necessary to comply with these requirements, in addition to requirements above.
 - K. Connect motors and equipment subject to vibration, noise transmission, or movement with a maximum of 72-inch flexible conduit. Install LFMC in wet or damp locations. Install separate ground conductor across flexible connections.
 - L. Set floor boxes level and trim after installation to fit flush to finished floor surface.

3.5 WIRING INSTALLATION

- A. Install splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- B. Install wiring at outlets with at least 12 inches of slack conductor at each outlet.
- C. Connect outlet and component connections to wiring systems and to ground. Tighten electrical connectors and terminals, according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.

3.6 SAFETY SWITCHES

- A. Securely fasten switches to the supporting structure or wall, utilizing a minimum of four 1/4 inch bolts. Do not use sheet metal screws and small machine screws for mounting. Do not mount switches in an inaccessible location or where the passageway to the switch may become obstructed. Mounting height shall be 5 feet above floor level, when possible.

3.7 WIRING DEVICES

- A. Install wall switches and receptacles so that when device plates are applied, the plates will be aligned vertically to within 1/16 inch.
- B. Ground terminal of each flush-mounted receptacle shall be bonded to the outlet box with an approved green bonding jumper when used with dry wall type construction.

- C. All switches and receptacles shall be flush mounted. All outlets are to be fitted with device plates that completely conceal the openings. All switches shall be "off" in the down position.

3.8 BOXES AND FITTINGS

- A. Furnish and install pullboxes where necessary in the conduit system to facilitate conductor installation. Conduit runs longer than 100 feet or with more than three right-angle bends shall have a pullbox installed at a convenient intermediate location.
- B. Securely mount boxes and enclosures to the building structure with supporting facilities independent of the conduit entering or leaving the boxes.

3.9 IDENTIFICATION PLATES AND WARNINGS

- A. Furnish and install identification plates for lighting and power panelboards, motor control centers, all line voltage heating and ventilating control panels, fire detector and sprinkler alarms, door bells, pilot lights, disconnect switches, manual starting switches, and magnetic starters. Process control devices and pilot lights shall have identification plates.
- B. Furnish identification plates for all line voltage enclosed circuit breakers, identifying the equipment served, voltage, phase(s) and power source. Circuits 480 volts and above shall have conspicuously located warning signs in accordance with OSHA requirements.

3.10 IDENTIFICATION MATERIALS AND DEVICES

- A. Install at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout Project.
- C. Self-Adhesive Identification Products: Clean surfaces before applying.
- D. Identify raceways and cables with color banding as follows:
 - 1. Bands: Pretensioned, snap-around, colored plastic sleeves or colored adhesive marking tape. Make each color band 2 inches wide, completely encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
 - 2. Band Locations: At changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (8-m) maximum intervals in congested areas.
- E. Tag and label circuits designated to be extended in the future. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.

- F. Color-code 208/120-V system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Black.
 - 2. Phase B: Red.
 - 3. Phase C: Blue.
- G. Install warning, caution, and instruction signs where required to comply with 29 CFR, Chapter XVII, Part 1910.145, and where needed to ensure safe operation and maintenance of electrical systems and of items to which they connect. Install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.
- H. Install engraved-laminated emergency-operating signs with white letters on red background with minimum 3/8-inch- high lettering for emergency instructions on power transfer, load shedding, and other emergency operations.

3.11 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, U-channel system components.
- B. Dry Locations: Steel materials.
- C. Support Clamps for PVC Raceways: Click-type clamp system.
- D. Selection of Supports: Comply with manufacturer's written instructions.
- E. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four; minimum of 200-lb design load.

3.12 SUPPORT INSTALLATION

- A. Install support devices to securely and permanently fasten and support electrical components.
- B. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assemblies and for securing hanger rods and conduits.
- C. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- D. Size supports for multiple raceway installations so capacity can be increased by a 25 percent minimum in the future.
- E. Support individual horizontal raceways with separate, malleable-iron pipe hangers or clamps.
- F. Support cable trays from ceiling hangers, equipment bays, or floor or wall supports. Cable trays may be mounted on equipment racks. Provide support when the free end extends

beyond 3 feet. Maximum support spacing shall be 6 feet. Trays 10-inches wide or less shall be supported by one hanger. Trays greater than 10-inches wide shall be supported by two hangers. Bond cable trays at splices.

- G. Install 1/4-inch- diameter or larger threaded steel hanger rods, unless otherwise indicated.
- H. Spring-steel fasteners specifically designed for supporting single conduits or tubing may be used instead of malleable-iron hangers for 1-1/2-inch and smaller raceways serving lighting and receptacle branch circuits above suspended ceilings and for fastening raceways to slotted channel and angle supports.
- I. Arrange supports in vertical runs so the weight of raceways and enclosed conductors is carried entirely by raceway supports, with no weight load on raceway terminals.
- J. Simultaneously install vertical conductor supports with conductors.
- K. Separately support cast boxes that are threaded to raceways and used for fixture support. Support sheet-metal boxes directly from the building structure or by bar hangers. If bar hangers are used, attach bar to raceways on opposite sides of the box and support the raceway with an approved fastener not more than 24 inches from the box.
- L. Install metal channel racks for mounting cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices unless components are mounted directly to structural elements of adequate strength.
- M. Install sleeves for cable and raceway penetrations of concrete slabs and walls unless core-drilled holes are used. Install sleeves for cable and raceway penetrations of masonry and fire-rated gypsum walls and of all other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.
- N. Securely fasten electrical items and their supports to the building structure, unless otherwise indicated. Perform fastening according to the following unless other fastening methods are indicated:
 - 1. Wood: Fasten with wood screws or screw-type nails.
 - 2. Masonry: Toggle bolts on hollow masonry units and expansion bolts on solid masonry units.
 - 3. Existing Concrete: Expansion bolts.
 - 4. Instead of expansion bolts, threaded studs driven by a powder charge and provided with lock washers may be used in existing concrete.
 - 5. Steel: Welded threaded studs or spring-tension clamps on steel.
 - a. Field Welding: Comply with AWS D1.1.
 - 6. Welding to steel structure may be used only for threaded studs, not for conduits, pipe straps, or other items.
 - 7. Light Steel: Sheet-metal screws.
 - 8. Fasteners: Select so the load applied to each fastener does not exceed 25 percent of its proof-test load.

3.13 FIRESTOPPING

- A. Apply firestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly.

3.14 DEMOLITION

- A. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
- B. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
- C. Abandoned Work: Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
- D. Remove demolished material from Project site.
- E. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

3.15 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing firestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.16 FIELD QUALITY CONTROL

- A. Inspect installed components for damage and faulty work, including the following:
 - 1. Raceways.
 - 2. Building wire and connectors.
 - 3. Supporting devices for electrical components.
 - 4. Electrical identification.
 - 5. Electrical demolition.
 - 6. Cutting and patching for electrical construction.
 - 7. Touchup painting.

3.17 FIELD TESTING

- A. Submit Test Reports in accordance with referenced standards in this section.

- B. After completion of the installation and splicing, and prior to energizing the conductors, perform wire and cable continuity and insulation tests as herein specified before the conductors are energized.
- C. Conductors shall provide all necessary test equipment, labor, and personnel to perform the tests, as herein specified.
- D. Isolate completely all wire and cable from all extraneous electrical connections at cable terminations and joints. Substation and switchboard feeder breakers, disconnects in combination motor starters, circuit breakers in panel boards, and other disconnecting devices shall be used to isolate the circuit under test.
- E. Perform Insulation-Resistance Test on each field-installed conductor with respect to ground and adjacent conductors. Applied potential shall be 500 volts dc for 300 volt rated cable and 1000 volts dc for 600 volt rated cable. Take readings after 1 minute and until the reading is constant for 15 seconds. Minimum insulation-resistance values shall not be less than 25 Megohms for 300 volt rated cable and 100 Megohms for 600 volt rated cable. For circuits with conductors sizes 8AWG and smaller insulation resistance testing is not required.
- F. Perform Continuity Test to insure correct cable connection (i.e. correct phase conductor, ground conductor, and grounding conductor wiring) end-to-end. Any damages to existing or new electrical equipment resulting from contractor mis-wiring will be repaired and re-verified at contractor's expense. All repairs shall be approved by the A/E prior to acceptance of the repair.
- G. Test ground resistance with minimum 10 data points, utilizing earth test megger and record results. Where tests show resistance to ground exceeds 25 ohms, take appropriate action to reduce resistance by driving additional ground rods.
- H. Conduct Phase-Rotation Tests on all three-phase circuits using a phase-rotation indicating instrument. Perform phase rotation of electrical connections to connected equipment clockwise, facing the source.
- I. Final acceptance will depend upon the successful performance of wire and cable under test. Do not energize any conductor until the final test reports are reviewed and approved by the A/E.

3.18 REFINISHING AND TOUCHUP PAINTING

- A. Refinish and touch up paint.
 - 1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.
 - 2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
 - 3. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 4. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.19 CLEANING AND PROTECTION

- A. On completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION 260500